National SAFETY NEWS

JUNE 1956

ATOMIC WARDROBE

IN THIS ISSUE

Eight Challenges for Safety

A Family Affair and a Personal Thing

Traffic Control in Britain's Skyways

THIS "PEDIGREE"

ASSURES COMPLETE

QUALITY CONTROL

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National SAFETY NEWS

Published monthly by National Safety Council

Vol. 73, No. 6 JUNE, 1956

THE COVER: Workers at General Electric's Hanford atomic plant dressed to enter hot area. Depending on exposure they may require caps and masks or hoods with masks. Plastic secondary shoe covers may be required or shoe rubbers may be needed over shoe covers. Sometimes coverall openings must be protected with masking tape.

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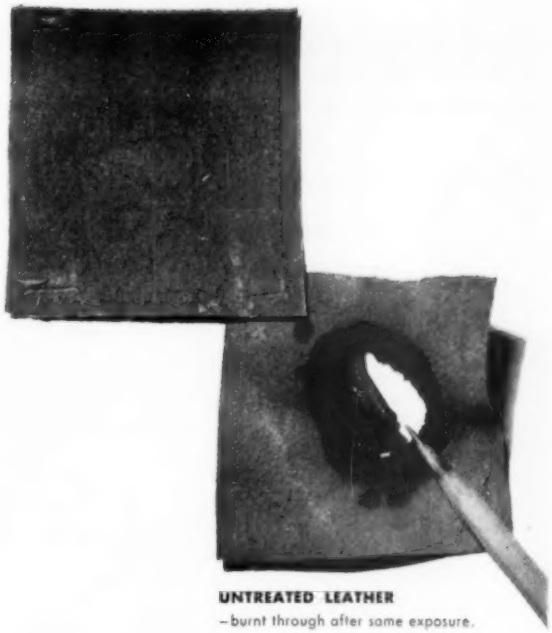

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*T. M. Reg.

Lehigh

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Emmaus, Pa.

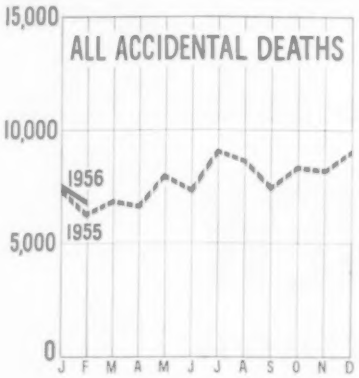
THE ACCIDENT BAROMETER

Prepared by the Statistics Division,

National Safety Council

THE DEATH TOTAL for February was approximately 6,800, an increase of 8 per cent over February a year ago. Most of the increase occurred in motor-vehicle but deaths from home and public non-motor-vehicle accidents also were more numerous. Work accident fatalities showed a decrease from 1955.

The two-month death total was 14,300, an increase of 5 per cent over last year. Increases occurred in motor-vehicle and public non-motor-vehicle fatalities while deaths from home and work accidents numbered about the same as in 1955.



	1956	1955	Change
February	6,800	6,300	+8%
Two Months	14,300	13,600	+5%

Motor-Vehicle Deaths

The February total of motor-vehicle deaths was 2,630, an increase of 16 per cent over last year. Compared to 1954, it was an increase of 6 per cent.

Deaths for the two months totalled 5,590, an increase of 10 per cent over 5,090 last year. The two-month death rate per 100,000,000 vehicle miles was 6.0, an increase of 2 per cent over the 1955 comparable rate of 5.9.

For the two-month period, 17 states had decreases from last year, 2 showed no change and 29 had increases. Reporting cities with populations of more than 10,000 had an increase of 8 per cent for February and 11 per cent for the two months.

Regional changes from 1955 in the two-month death totals were:

North Atlantic	+19%
South Atlantic	+ 7%
North Central	+ 6%
South Central	+ 8%
Mountain	+13%
Pacific	+19%

Work Accidents

Deaths from work accidents numbered about 900, or 100 fewer than last year. The total for two months was 2,100 — no change from 1955.

The February frequency rate per million man-hours for plants in eighteen sectional accident prevention contests conducted by the National Safety Council was 5.28, a decrease of 2 per cent from last year. The February rate for plants in community council contests was 5.64, a decrease of 1 per cent from 1955. The two-month rate in sectional contests was 5.43, down 4 per cent, while in community council contests the rate was 5.58, up 2 per cent.

Public Deaths

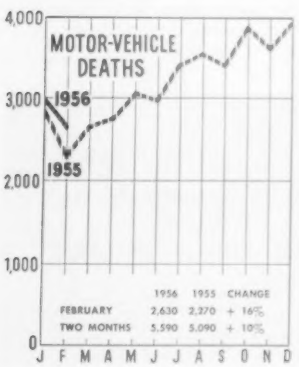
The death total from public non-motor-vehicle accidents in February was 900, an increase of 100 over last year.

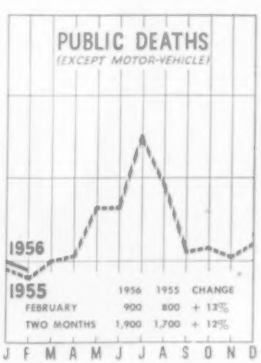
Deaths during the two months totalled 1,900, an increase of 12 per cent over 1955. There were increases in fatal burns, falls and firearms accidents and decreases in drownings and transportation accidents. Fewer deaths were recorded for children under 5 and persons 25 to 44 years old. Other age groups showed increases with the largest change reported for persons 65 years and over.

Home Deaths

February deaths from home accidents numbered about 2,600, or 4 per cent above last year.

The two-month death total was 5,200, about the same as in 1955. Decreases in fatal poisonings and firearms accidents were offset by an increase in burns while deaths from falls and mechanical suffocation showed no change from last year. There were moderate reductions in deaths of persons 15 to 24 and 45 to 64 years old and a large increase for children 5 to 14 years of age. Other age groups showed little change from 1955.





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Thom McAn
SAFETY SHOES
A Division of the Melville Shoe Corporation

THE SAFETY VALVE

Nothing human is alien to me

—TERENCE

Nerves? Everybody Has 'Em

TENSION is a word you hear everywhere—in offices, at lunch tables, in bars, and perhaps most of all, on the suburban trains. Everybody seems to be under pressure from one or more directions, with advertising men suffering the most—if we can believe what we read. Or maybe they just seem more tense than other executives. Some of them seem to be bragging about their ulcers.

The doctor who warns many a high pressure guy to "take it easy—or else..." often needs the prescription more than his patient. And the busy mother in the home could tell the business big shot a few things about pressures.

But running a business isn't any picnic. Crises on the national and international scene are less destructive than those right on the job. They are shared in varying degrees by all who have executive or supervisory responsibilities.

The top brass may worry about consumer acceptance of the product, taxes and rising costs. And not the least of management's problems concerns personnel. Keeping an efficient organization together is difficult. Men in key positions leave for greener pastures, have nervous breakdowns, retire, or die. Sometimes they just lose their batting eye, or develop strange personality traits.

Down the line, the supervisor is worried about production schedules, accidents, labor turnover, and trouble makers on the job.

Even the hourly wage groups aren't free from mental and emotional upsets, as any foreman or personnel manager knows. There are some 12 million men and women in industry today who hate their bosses, cause accidents and develop psychosomatic ills. They may go to the company doctor for treatment, go home to bed and take it out on the family, or visit the nearest bar. Their cost to industry in unproductive wages, injuries to themselves and fellow workers, and damage to machines has been estimated at $3 billion dollars a year.

Psychiatrists warn us that keeping our feelings too tightly corked may build up dangerous pressures, so blowing your top has therapeutic value. Some tense people seek relief by eating themselves into obesity and by excessive smoking, drinking and sex activity. Unfortunately, these popular remedies are easily overdone.

Painting, sculpturing and photography have their advocates. William Feather says he gets paid for putting on paper what some people would pay a psychiatrist to listen to. However, few writers would recommend their craft for relaxation.

Among outdoor recreations gardening is one of the most popular. Bird watching is also soothing. Golf is good too, if you don't get upset by sliced drives and missed putts. And I have found a seat back of the first base dugout a good place to get away from it all.

I have always remembered a woman who lived serenely to a ripe old age in spite of unhygienic surroundings and little visible means of support. Her philosophy was simple: "Trust in the Lord and keep your bowels open."

Many a lengthy article on mental and physical health hasn't come any closer to basic truth.

In This Issue

The atomic age and its implications are quite prominent in our thoughts these days but safety has many other and more immediate problems. Here is an appraisal of present challenges by an executive long prominent in safety leadership. (Page 18)

* * *

"When management can tap the leadership and initiative of as many able employees as it does in the Frisco's safety program, then really important jobs get done—and done well," to quote the railroad's magazine, *All Aboard*. And here is an inspiring story of how it's done. (Page 22)

* * *

The housewife who thinks she has a big weekly wash should see this laundry. The work garments turned in daily are not only soiled but possibly radioactive. (Page 20)

* * *

Early reactions from this contest were discouraging but it produced some long-range benefits. Competition is a valuable aid but it won't do the accident-prevention job alone. (Page 24)

* * *

Britain still has less congestion in aerial traffic than the U. S. but aviation over there is getting ready for problems the turbojet may bring. (Page 28)

* * *

Looking for ideas in presenting pictures? Here are some eye stoppers taken at Kelly Air Force Base down in Texas where the safety department, the photographer and the editor of the base newspaper worked together in planning displays that put the safety idea across. (Page 32)

Carman Fish

Attention: Safety Directors and Production Managers

75% quieter!

NEW THOR Silentair SCREWDRIVERS

Less noise on your lines means more production, better employee relations and morale

YES, here is 75% less noise on your production line . . . the great new Thor "Silentair" Screwdrivers! A steel sleeve with 24 perforations is attached over the exhaust of any of these Thor No. 2 series straight screwdrivers. This sleeve, with its acoustical pattern of holes, breaks up and absorbs the sound of the air motor.

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"Silentair" is optional equipment on Thor air screwdrivers—the most powerful available to industry. For a demonstration, contact your nearest Thor factory branch listed below, or write Thor Power Tool Company, Aurora, Illinois.

Quiet power on your lines lets employees do better work, improves output—fewer mishaps, mistakes.

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SAMMY SAFETY'S NOTEBOOK

By Arthur S. Kelly
Industrial Department, NSC

WE WOULD like very much to be able to report that umpteen ideas had been submitted and that we had one heck of a time choosing which to include this month. The sad truth is that only one of the ideas presented this month was submitted specifically for "Sammy Safety's Notebook." The other one is plainly a pump primer—but we think it is a good one and hope a lot of readers can use it.

Looking at these entries, and those in previous issues—don't they give you an idea of something that was developed in your plant, or in some other plant for that matter—which made a job safer? Even if you don't need a Parker '51 pen, maybe you know a June graduate you could give one to if you should win. Send us an entry or six.

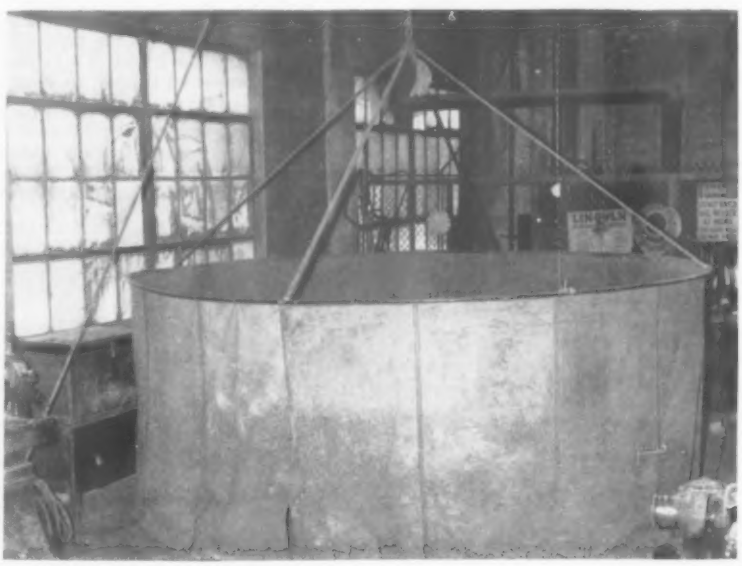
The winner in the May issue was F. R. Barnako, manager, Compensation and Safety, Bethlehem Steel Company, Bethlehem, Pa. Mr. Barnako submitted two ideas. The winner was the rail stop.

Assault Mask Adapter

THE DEVELOPMENT of the lucite adapter to the canister of an assault mask enables the mask to be used for a dual purpose. Without the adapter the mask is suitable for filtering out contamination in the air but offers no protection against chemical vapors and gases. With the adapter in place in the canister and attached to a fresh air supply, protection is afforded by the mask against high levels of air contamination, chemical vapors and gases that may be encountered in the work areas.

In addition, when the mask is worn for a considerable period of time, the intermittent use of fresh air improves employee comfort.

Submitted by: William Watson, Jr., Manufacturing Department, Hanford Atomic Products Operation, General Electric Company, Richland, Wash.



Welding Screen

THIS SCREEN gives 360°-protection against welding flash. The frame is made of pipe and the entire assembly is suspended from the ceiling by a single rope block with the end of the line tied at lower left. The screen can be lifted in the clear until a job is set up and then lowered into position, protecting the entire shop area from exposure to the flash.

Submitted by J. H. Couthard, master mechanic, Monolith Portland Midwest Co., Laramie, Wyo.

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. . . with your purchase of Sight Saver Tissues

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- **Compact, space-saving—over-all size only 3½ x 8″**
- **Easy to install—either screw or adhesive mounting**
- **Dispense just one ready-to-use, 3 x 7″ tissue at a time**
- **Easy to service, insert new packets of tissues as needed**
- **Dispense standard Sight Saver refill packet—No. 65**
- **Attractive steel construction, fool-proof mechanism**
- **Available in 3 colors—safety green, white, black**

Catalog	Color	Price
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No. 67	Black	Free with purchase of Sight Savers
No. 68	White	ditto
No. 69	Safety Green	ditto
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No. 61	White	$2.50 ea
No. 62	Safety Green	$2.50 ea

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CITY _____ ZONE _____ STATE _____

CONSULTATION CORNER

By George MacDonald, *Industrial Department, NSC*

Got a problem in accident prevention or occupational hygiene? Questions are answered by mail, a few of general interest being selected for publication here

Floor Mats in Offices

Question. I need some advice on the use of floor mats in offices around filing, IBM, supply, etc., departments. My question concerns the comfort features versus maintenance and safety.

By putting mats over concrete floors it is agreed that a certain amount of relief from fatigue is accomplished. Is it worth it when considering problems of maintenance such as waxing, washing and cleaning floors? Another very important feature is safety, such as curling edges and tripping hazards.

Answer. We have not encountered any unsatisfactory experience in the use of floor mats when cleaning, waxing, and polishing the floors was necessary.

At Council headquarters we have used mats in the Shipping Department and also the IBM Department for a number of years without any complaints about maintenance. In the Shipping Department we have a sponge rubber type mat which is rolled up when the floor is cleaned.

In the IBM Department we use a different type of mat which is shoved to one side when the area which it had covered is cleaned. It is about 1 in. thick with a 1-in. bevel and is obtainable in sections. It is somewhat heavy and is constructed with suction cups to prevent slipping. You may be interested to know that it is impossible for edges to curl because of the thickness and weight of the mat. As sections are added the pieces cannot separate because each piece interlocks with the other.

You mention that a tripping hazard may be caused by thinner mats which curl at the edges. We have had this same experience and have solved it by fastening 1-in. wide strips of 16-gauge sheet brass to the bottom edges of the mats. The strips were riveted, using large washers to prevent tearing the matting, along both edges and at the ends. However, if the mat is to be rolled when the floor is cleaned it is suggested that the strips be applied only to the ends of the mats.

Explosion-proof Radios

Question. I would like information concerning a radio to be used in a hazardous location.

This hazardous location is a high pressure hydrogenation and autoclaving room. The room is equipped with light fixtures, switches, junction boxes and circuit breakers approved by the Underwriters Laboratories, Inc. to be explosion-proof and dust tight for use in Class I—Groups D; Class II—Groups F, G; and groups as defined in Article 500 of the N. E. Code and in Class III.

Is there a radio that meets the necessary requirements and approval?

Answer. At least one company has specialized in explosion-proof radios for the War Department and meets all tests. Trade literature is enclosed, along with the names of two chemical companies that are using radios in hazardous locations. We suggest that you write to the safety directors for their specifications and experiences.

(Names of companies will be furnished on request.)

Snow Tires or Chains?

Question. Above average snowfall in St. Louis recently has developed some discussion in our company as to the claimed improvement in so-called snow tires. Approximately 30 per cent greater traction possibilities has always been claimed for skid chains in the past. Has any recent test supported this claim? Our company usually uses chains on our six passenger cars driven by above-average drivers, who report satisfactory performance.

Answer: The National Safety Council has available two booklets entitled "It's Your Responsibility" and "It's Up To You." They give the relative stopping and starting abilities of regular tires, snow tires, and tire chains. These figures are the result of actual tests run by the Committee on Winter Driving Hazards during past winter tests and should answer the questions which have come up for discussion in your company.

We would like to comment on your use of the term "skid chains." For many years, the Council has advocated the use of tire chains to prevent skids and to assist in starting and stopping under icy conditions. As you have used it, the term "skid chains" implies the causing of a skid, rather than the prevention.

In the past, the use of regular tire chains has been subject to some criticism because they did not furnish too much resistance to side skids on a curve. However, the increasing use of reinforced tire chains, in which a bar or cleat is welded to each link of the cross chain, has developed because these chains furnish very high resistance to side skids and provide better starting and stopping traction than regular tire chains.

Eye Tests for Crane Operators

Question. At one of our recent shop safety meetings a motion was approved that any employee applying for the job of crane operator would be required to pass an eye examination as part of the qualifications for the job.

As soon as we started doing this the question was raised by our optometrist as to how much from perfect or normal vision and what degree of lack of depth perception would be tolerated in or-

—To page 161

Fyr-Fyter

Loaded Stream INSTANT with KARBALOY

HAS FIRE-KILLING POWER OF 3 EXTINGUISHERS*

*Compared with conventional extinguishers of like size, designed to fight fires in wood, rubber and other general combustibles.

. . . and fireproofs as it extinguishes! Karbaloy, Fyr-Fyter's exclusive chemical liquid developed by engineers now prominent in atomic research, *kills fire in one-third the time required by ordinary chemicals!* It's also *non-freeze, and non-toxic* . . . and the only extinguishing agent of its type (Class A) that STOPS FLASHBACK in wood and dreaded rubber tire fires! Instants are effective, too, on incipient fires in gas and oil!

That's why Loaded Stream Instants are widely used in underground mines, warehouses, lumber yards, piers, docks, ships and grain elevators . . . and they're *standard equipment* on the patrol cars of this country's major thruways and turnpikes. There's no service problem with an Instant . . . because recharging (refilling) is required ONLY after use! They're approved by Underwriters' Laboratories, and available in 1, 1¾ and 2½-gallon extinguisher sizes, as well as 20, 40 and 80-gallon 'engine' capacities!

No other extinguisher provides the combination of advantages found in Fry-Fyter Instant extinguishers!

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OUR 40th YEAR OF MANUFACTURING . . . THE MOST COMPLETE LINE IN INDUSTRY

TEAR OUT THIS COUPON AND MAIL WITH YOUR LETTERHEAD

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- ○ Send a Fry-Fyter Representative. Let's talk it over. No obligation.

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SHOWMANSHIP IN SAFETY

By Neil Kinney, *Industrial Department, NSC*

Showman-of-the-month for May—J. J. Holmes

J. J. Holmes, safety department superintendent at Dominion Iron and Steel, Ltd., Sydney, Nova Scotia, became our Showman-of-the-Month for May with his "Mystery Box Contest." Mr. Holmes thus is number four on our list of prize winners and automatically becomes eligible to win Safety Showman of the Year award, a Parker "Magnetix" desk set.

Mr. Holmes, as winner, will receive a Ronson Adonis cigarette lighter. If you would like a chance to win a Ronson, why not send us a story and picture of a safety stunt or safety promotion idea.

The idea need not have been developed by you—you get the credit for "discovering" the idea and bringing it to our attention. Any idea that peps up employee interest in safety is eligible—just send your picture and story to Showmanship in Safety.

Oops!

In our April column we inadvertently misplaced Whirlpool-Seeger Corporation's St. Joseph Division. We had it in Missouri.

Thanks to Gerald W. Shipman, Twin Cities Area Safety Council (St. Joseph and Benton Harbor, Mich.) for locating it for us. We hereby return Whirlpool's lost division to its rightful home—St. Joseph, Mich.

TV Boosts Convention Attendance

Visitors at the Greater New York Safety Convention were exposed to a novel bit of advertising designed to increase attendance at the Construction Safety sessions. Robert L. Moore, technical and engineering division director for Lumbermens Mutual Casualty Company gets the credit.

When visitors arrived at the registration desk their attention was captured by a nearby television set which was telecasting a picture of the proceedings of the Construction Session on a floor above.

Only one catch . . . *no sound.*

Mr. Moore had made arrangements with an industrial television company to televise the meetings on a closed circuit—minus the audio. A large sign placed near the TV set urged visitors to go upstairs where they could *hear* as well as *see* what was going on.

Braille Message Sells Eye Protection

A description of a vivid eye safety demonstration comes from Mr. M. M. Clancy, supervisor, safety and welfare, for Ryan Aeronautical Company, Lindbergh Field, San Diego, Calif. It is evident, from Mr. Clancy's letter, that Ryan employees will remain impressed with the need for eye protection for a long time to come . . .

"To stimulate interest in eye protection, our safety engineers took a tool from the blind and aroused new enthusiasm. At a meeting of production supervisors, everyone was blindfolded, then handed a sheet of paper inscribed with a safety message in braille. For five minutes, they were asked to keep the blindfolds on and attempt to read the braille message with their finger tips. After what seemed an interminable time to some, the blindfolds were removed and the message translated. It read:

'You can walk with a wooden leg and you can eat with false teeth, but you can't see with a glass eye. Protect your eyes; they are the only real eyes you will ever have.'

"Then a guest speaker who has been blind since he was 13 years old spoke to the group about the importance of wearing eye protection when hazards are present.

"The program was exceptionally effective. Forced to sit 'in the dark' for five minutes, the production supervisors experienced what it means to be without sight. Unable to understand the message at their finger tips, they also realized the frustration that comes from being cut off from visual communication."

BLINDFOLDED Ryan Aeronautical Company supervisors try their hands at reading braille during company's eye safety demonstration.

SAFETY WITH COMFORT

Model 96 — Our new Welder's Goggle for use over prescription glasses.

Model 90 — The same goggle with clear chipper's lenses.

Dockson GOGGLES

Dockson offers a complete line of fine quality, top value goggles designed to cover every eye-protection need and price range.

Every effort is directed toward maximum protection *AND* comfort for the user, and each item meets or exceeds U.S. Standards.

Years of experience in the manufacture of "Better-Built," Head and Eye Protection has resulted in many outstanding features and an industry-wide preference for Dockson products.

A full lens selection is available for each goggle.

Compare Dockson Goggles for quality and value and you'll appreciate their superiority.

Model 26—Spectacle Goggle.

Model 40—Popular Spectacle Goggle.

Model 33—Spectacle Goggle.

Model 70—General Chipping and Grinding Goggle.

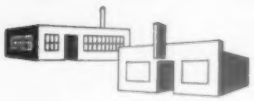
Model 60—Monelite Chippers Goggle.

Model 492—Plastic Frame Welding Goggle.

Dockson CORPORATION

3839 WABASH AVE. DETROIT 8, MICH.

SMALL BUSINESS and ASSOCIATIONS



By A. M. Baltzer and Robert D. Currie
Small Business Program Staff, National Safety Council

More Multipliers

Word is gradually getting around that owners and managers of small, independent businesses do not flock to our safety conferences, no matter how enticing the program. It is more and more apparent that we must take safety to the small businessman.

For this we need multipliers, many of them! Multipliers who can talk accident costs, employee and public relations in terms that the small employer can understand are needed in each industry and in each community.

Your section and chapter of the ASSE recently received letters suggesting strengthening of our network of multipliers by the appointment of liaison representatives to promote small business safety.

Many of you serve on sectional and/or ASSE committees. Please support our plea for more multipliers. Don't wait to be asked; offer your services as a speaker or organizer to your group. *Multiply your effort!*

To Be Given Away

We're offering, in free booklets, plenty of know-how by association executives who are enthusiastic about preventing accidents among their members. These booklets simply tell why their associations or groups became so interested in preventing accidents and how they went about helping their members reduce occupational injuries — at the association level and the local level.

These two booklets are available:

- *Small Business Safety Through Associations*
- *Small Business Gets Help On Its Home Grounds*

In addition, we have reprints from the NATIONAL SAFETY NEWS on "Basic Requirements For First Aid." These are for smaller firms. Just request yours—or all three if you wish—from the Small Business Program of the National Safety Council.

Small Biz Session in New York

A record attendance of more than 500 got the word on "How To Promote Safety in Small Companies" at the recent Greater New York Safety Conference. This successful session was co-sponsored by the Greater New York Safety Council and our NSC Small Business Committee. Our committee has been working on this problem a long time and is learning more and more about it as the months and years go by.

CMI Sets a New Goal

When the *Can Manufacturers Institute* safety program was being considered in 1950, it was agreed that if the industry could reduce its frequency rate from 14.9 to 6.0 in 10 years, the program would be highly successful. It's our guess that the program is a whopping success for CMI reports the industry's frequency rate in 1955 was 5.97. This is a reduction of 60 per cent and it took five years, not ten. This, of course, calls for a new goal—a frequency rate of 4.0 by 1960.

Here are the highlights of CMI's 1955 *Safety Report*:

1. Reduced frequency rate from 6.85 in 1954 to 5.97 in 1955.

2. Twenty-nine of 118 plants and locations went through 1955 with no disabling injuries — 12 more than in 1954.

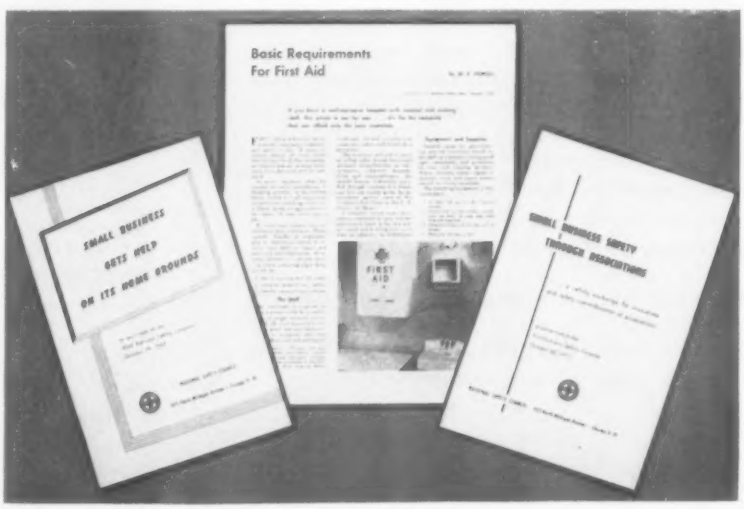
3. Eighteen of 39 miscellaneous locations had no disabling injuries in 1955, the same as 1954.

4. Twelve plants reached the million man-hour point without a disabling injury.

5. The record for can plants is 2.68 million man-hours with no disabling injuries. However, another plant had reached 2.5 million man-hours without a disabling injury early this year and by this time has probably established a new record.

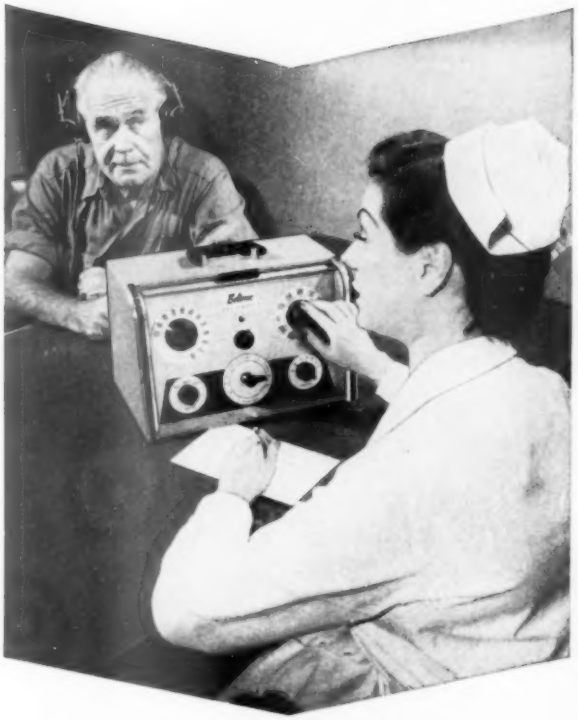
Gas Industry Safety

The *American Gas Association's* monthly magazine last year carried 24 articles on safety, ranging from announcements of awards to technical articles. This is but one of the AGA's accident prevention services that helps keep the industry's frequency so low.



AVAILABLE FREE. These publications can help reduce occupational injuries for associations and small firms.

why HEARING TESTS play an important part in accident prevention...



HOW A BELTONE AUDIOMETER CAN HELP

Many industrial accidents have been traced directly to the inability of workers to hear warning signals, the approach of vehicles or equipment. Most of these accidents might have been prevented by a comprehensive Industrial Hearing Test Program.

Such a program has proved invaluable in accident prevention wherever it has been used. It also provides a permanent record which, in many cases, has been the basis for handling compensation claims for hearing loss.

Medical, legal and safety directors who are vitally concerned with the hearing acuity of employees recognize the importance of threshold audiograms. For this reason, highly accurate and dependable audiometric equipment is of primary interest to industrial firms.

7 Big Reasons Why the Beltone Audiometer Is Ideal for Industrial Use

1. Easy operation and exceptional accuracy.
2. Lower in initial cost and low in maintenance cost.
3. Extremely compact and light . . . only 11 pounds, so it can be carried easily from plant to plant or from one department to another.
4. Trouble-free operation.
5. Features a new, exclusive circuit using only one electronic tube.
6. Its continuously variable attenuator permits interpolation in one decible steps.
7. Its induction calibration assures accuracy.

NEW *Beltone*
AUDIOMETER

Model 9A—Price, $295

BELTONE HEARING AID COMPANY • MAKERS OF TRIPLE TRANSISTOR HEARING AIDS
2900 West 36th Street, Chicago 32, Illinois

New FREE Booklet Gives Complete Information

To get all the facts about the economical new Beltone Audiometer . . . and how it gives easy, accurate tests of hearing loss . . . mail coupon TODAY for illustrated FREE booklet. No obligation.

Audiometer Division, Beltone Hearing Aid Co., Dept. 9-031
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Please rush me, without obligation, the FREE booklet describing the new Beltone Audiometer for easy, accurate testing of workers' hearing.

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Now . . . THREE NEW

HY-TEST Safety Shoes

FEATURE SILICONE-TREATED WATER-REPELLENT LEATHER

H220 . . . Brown "Sylflex" silicone-treated plain toe blucher oxford; brown Resist-Oil (Neoprene) sole and heel; storm welt; Nylon waxed laces; completely Dacron stitched.

H920 . . . Brown "Sylflex" silicone-treated plain toe blucher; brown Resist-Oil (Neoprene) sole and heel; storm welt; leather laces; completely Dacron stitched.

H980 . . . Brown "Sylflex" silicone-treated plain toe 8" boot; brown Resist-Oil (Neoprene) Grit buffed full double sole and heel; storm welt; leather laces, completely Dacron stitched.

Now you have a choice of *three* HY-TEST styles . . . an oxford, a shoe and an 8" boot . . . made with "Sylflex" silicone-treated brown upper leather *plus* brown Resist-Oil sole and heel. Each is soft, flexible, easy-going and durable. The "Sylflex" tanned upper leather repels water and water-borne chemicals, keeps them from soaking into the fibers and still permits the leather to breathe. Feet are warm and dry in winter, cool and dry when it's hot and humid. The oil and acid-resisting sole and heel are slip-resistant and insure tough, long wear. And, of course, they include the famous leather lined Anchor Flange Steel Box Toe.

Write for Full Information

HY-TEST SAFETY SHOES
***Division* INTERNATIONAL SHOE COMPANY**
1509 Washington Ave., St. Louis 3, Mo.
Teletype: SL 300
927 N. 3rd St., Philadelphia 23, Pa.
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WHY SETTLE FOR LESS? . . .

Buy HY-TEST and Get the Best!

National
SAFETY NEWS

JUNE 1956

Average Men

GENIUS is a valuable but rare quality. There isn't enough of it to go around so most of the world's work must be done by "average" men. And much of their work is indispensable to our health, safety and well being.

Loyalty, enthusiasm and experience lift many men of no special talent above the dead level of mediocrity. In searching for efficiency the manager who lacks imagination sometimes overlooks these qualities. But he soon finds that ability without interest will not make a desirable employee.

In their studies of the human mind, psychologists have rendered important service to industry. Tests developed through their studies have proved helpful in appraising individual abilities and putting placement on a more scientific basis.

But tests alone are not a final indication of an employee's value. At best they indicate only potential capabilities along certain lines. They do not guarantee performance on the job. Human nature is too complex and unpredictable.

Psychology, fortunately, goes much deeper into the personality of the individual than a mere appraisal of his skills. Attitudes and emotions are just as important.

What an employee *can* do is one thing; what he *will* do under employment conditions is another. Patience, honesty of purpose and ability to get along with people are no less valuable than job skills to the employer.

Every business and every industrial organization is composed of average men with varying mental and physical capacities. Few of them are brilliant, yet the company manages to form them into a working team that turns out a satisfactory quantity of reliable products.

Outstanding safety records are not made by supermen. Employees of companies which have won high honors in accident prevention are basically no different from their fellows in many another plant. But invariably they are superior in their cooperative attitude.

And it is generally safe to assume that they have better than average training and direction.

Progress in accident prevention is becoming more and more difficult. To keep up with the parade we must meet

Eight Challenges For Safety

By J. E. TRAINER

I HAVE ALWAYS had the greatest admiration for those people who take an active part in accident prevention work. This applies equally to full-time safety engineers and to members of supervision who do a good job of preventing accidents.

The great strides in industrial accident prevention during the past 30 years are well known. However, experience has shown that the more we reduce our accident rates the more difficult it is to continue improvement.

1. Develop Better Methods

Here is our first challenge: We must find new procedures and new tools. We can't depend on the old techniques to maintain progress.

In planning new approaches we might review some of the historical approaches to the problem. Years ago few plants were concerned about accidents unless they caused death or amputation.

As interest grew, we became concerned with any accident causing disability—permanent or temporary.

Then, as more emphasis was placed on safety, we intensified our efforts. We studied and analyzed all accidents resulting injuries serious enough to be treated by first-aid personnel. Most of us are now at this stage.

The next step, it seems to me, is to eradicate the unsafe practices and conditions so that even these minor first-aid injuries will not occur. By reducing the minor injuries we will prevent many a serious injury.

In some of our plants we recently started a program that is proving helpful in reducing unsafe practices. Some time ago we introduced a statistical quality control program with staff personnel stationed in various departments to follow this quality improvement program. One of these men came upon the idea that it would be helpful if he observed and recorded unsafe practices in his area. A report of these observations was then passed along to the department supervisor for handling.

J. E. TRAINER is Executive Vice-President, The Firestone Tire and Rubber Company, Akron, Ohio. He has been associated with Firestone since 1939 and during World War II was in charge of converting the company's worldwide facilities for all-out war production. For his services he was cited by the Army Ordnance Department and by the Secretary of War. In 1948 he was appointed chairman of the Engineering Committee of the President's Conference on Occupational Safety. From 1950 to 1952 he was National Safety Council's Vice-President for Industry. This article has been condensed from an address before the North Carolina Safety Conference, Charlotte, N. C., May 1956.

This program has worked out so well that it has been extended to other plants. It is a good gauge of the job being done.

Another practical method is analysis and study of each operation to determine ways of eliminating both unsafe practices and unsafe conditions.

Much can be done along this line before an operation gets underway. Much also can be accomplished by supervision and by staff personnel who have opportunities to study the operations. Once the unsafe practice or condition is known, it is important that we follow through.

2. Prepare for the Age of the Atom

Another challenge in the safety field is that brought by the atomic age. Let us consider here only the peacetime uses of atomic energy. The blessings that will come from the use of atomic energy in our power plants and in nearly every field are beyond comprehension. But these uses will bring problems, and one of these concerns safety.

Some atomic power plants are already under construction in this country. Incidentally, insurance companies are now considering insurance plans for these plants. Because of possible serious hazards involved, it is necessary to have a number of large companies participate in underwriting the insurance coverage. This in itself shows the seriousness of the problem.

To date an admirable job in accident prevention has been done in this field. It is imperative

that even greater precautions be taken as the uses of atomic energy are expanded. We must make sure that the atom continues to be our servant and not our master.

3. Keep Pace with Disease Control

We all recognize the fact that great strides are being made in the prevention and cure of disease. Progress in this direction is illustrated by the discovery of the Salk vaccine for the prevention of polio. Undoubtedly, similar progress will be made in the prevention of cancer. As a result of progress in medical science, people are living longer and more enjoyable lives.

At the present time only heart disease, cancer and vascular lesions rank above accidents among the causes of death. For persons aged 1 to 35, accidents are now the leading cause. Within a few years accidents may rank first for persons of all ages—that is, unless we make greater strides in preventing accidents.

Unfortunately, no vaccine has yet been discovered to make people accident free. The most effective technique involves the education of everyone—a much slower method than laboratory research.

So here we have another challenge—to prevent accidents from becoming the top killer.

4. Get Busy Off the Job

Occupational accidents account for a comparatively small proportion of the total number of accidental injuries and deaths. Less than 20 per cent of all fatalities occur on the job. If we are to reduce the annual toll to any great extent, we must make a greater effort to prevent *off-the-job* injuries.

We know that safety training on the job carries over and makes employees more safety conscious at home and on the highway. However, we must do more than depend upon this carry over. We can call off-the-job safety to the attention of our employees while they are in our plants.

Whether an employee is injured on the job or off the job, industry loses. A replacement must be trained and inefficient operations are likely to occur until the new man becomes proficient.

Many companies now provide company-financed sickness and accident insurance. Injuries that occur off the job are, therefore, a cost of doing business since much of the medical expense and certain disability benefits are paid by the company.

Here are some of the steps our company has taken to stress off-the-job safety:

- We ask supervision to make personal safety contacts with employees, covering both on-the-job and off-the-job safety. Before an employee starts his vacation, supervision stresses to him the importance of driving safely and practicing safety generally. Before holidays, which often take a terrific toll, we make similar contacts.

- We provide off-the-job posters for bulletin boards and pamphlets for information racks. These pamphlets are read not only by employees but also by their families.

- We list safety slogans and messages on payroll enclosures and in our plant papers.

- Before Safe Driving Day each year we put on a special campaign to dramatize the necessity of driving safely. Special pamphlets prepared by the company are passed out to each employee by his supervisor and with the pamphlet a personal contact is made on the subject of safe driving.

All of us who have an opportunity to spread the safety message should never hesitate to accept speaking engagements before PTA's, service clubs, church groups, etc.

We can also help by getting behind road improvement programs in our communities and states, and in our country as a whole. Progress is being made but we still have much to do.

Another step forward in traffic safety is providing more safety features in automobiles. We should encourage automobile

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IF SAFETY IS TO GROW:

1. We must find new and ingenious techniques if we are to continue to improve our safety records.

2. With the atomic age approaching at a rapid pace, we must be prepared to use this energy safely if we are to reap its fullest benefits.

3. If we are to prevent accidents from becoming the chief killer of people, we must keep pace with the great strides being made in medical research.

4. Occupational accidents now comprise less than 20 per cent of the total annual accident toll. An important challenge is to reduce the large number of off-the-job accidents.

5. Top management must take a more active part in plant safety efforts. Safety work is not something that can be delegated and then forgotten.

6. For safety directors, the challenge is to become better versed in the technical aspects of operation and to do a better job of selling safety to supervisors and employees.

7. The seventh challenge has to do with employee relations. Safety contacts with employees can develop better relations between men and management in addition to preventing accidents.

8. The last challenge is the necessity of reducing accident costs by preventing accidents. Accidents have become so expensive that no plant can afford *not* to have a good safety program.

Laundry in the Desert

This laundry does more than just wash clothes. It decontaminates garments worn in areas where radioactive materials are present

ISOLATED in the desert, 40 miles from the nearest town, a laundry works two shifts daily just to meet the demands of its lone customer — which requires tons of freshly laundered clothes daily!

The laundry, operated by General Electric Company in the vast Hanford Atomic energy plant near Richland, Wash., one of the world's largest atomic installations, does more than just launder clothing. Its unique function is to "decontaminate" protective clothing worn by plant personnel working in areas where radioactive materials are present.

While commercial laundries deal merely with ridding clothing of dirt and grime, this laundry also washes away all radioactive particles which may cling to each article of clothing. The atomic energy industry tags this the "decontamination process."

When Hanford people talk about contamination, they mean dust or liquid-borne radioactive particles —industrial residue of the ingenious Hanford manufacturing process which produces the vital nuclear fuel, plutonium. Radiation from the tiny particles can be harmful if they find their way into the human body.

No one has ever been injured by radiation or seriously injured as a result of radioactive contami-

EVERY DAY is washday at the Hanford atomic energy plant where mountains of clothes must be laundered daily. On arriving at the laundry protective clothing is sorted by an employee who wears mask, gloves, head cover, coveralls and shoe covers in case some of the clothing still possesses contamination from radiation zones. (Photos courtesy General Electric Company and Cleanliness Bureau)

AFTER CLOTHING has been sudsed, rinsed and dried, it is monitored by women equipped with radiation detectors for traces of radioactive contamination.

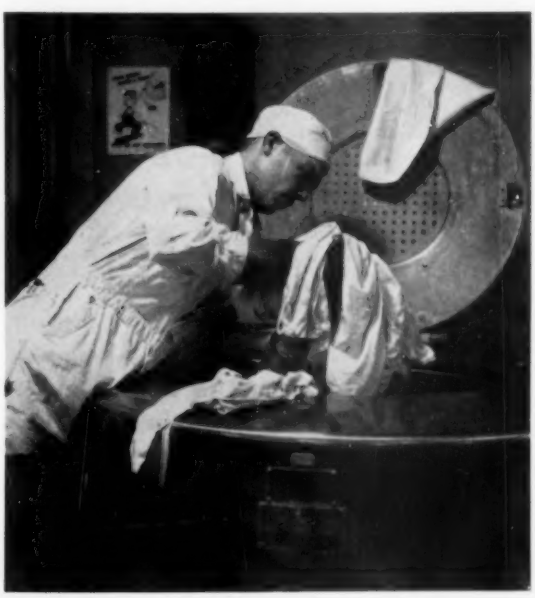
nation at Hanford, and the laundry is an integral part of the reason for this fine record. The plant is constructed so that employees rarely get near radioactive materials, and constant education keeps them on their toes mentally in the presence of radiation, while rotation of work assignments in "hot" areas keeps individual exposure to a minimum. An alert radiation monitoring force rounds out the successful protection program.

Few laundries anywhere have more fastidious customers. Before the veritable mountains of clothing are laundered, each article is tested for radioactivity. If the count is too high, the clothing goes into a special washer for badly contaminated articles. After washing and drying, each garment is tested again and sent back through the washing process if any radioactive particles have survived.

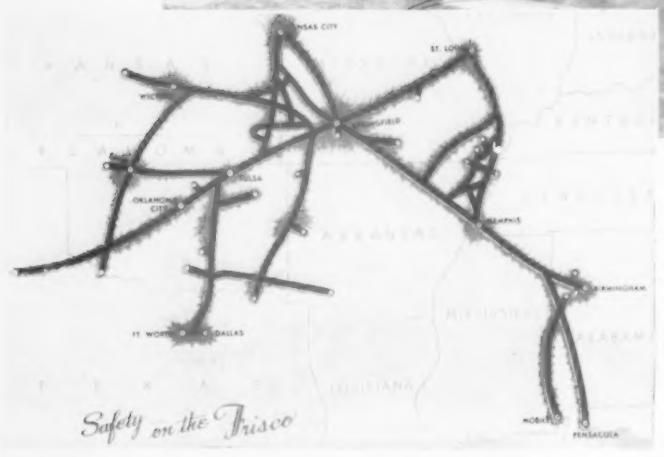
Several thousand pounds of a specially compounded detergent, strong enough to loosen the most stubborn dirt and grime, are used annually to clean and decontami-

—To page 143

MASKS MAY BE REMOVED for the first time in the operation while washers are operated and unloaded. Other protective clothing is still worn.



AS CLOTHING EMERGES from the washers it is put into giant extractors similar to those used in commercial laundries.



SPRINGFIELD packs them in. The family safety meeting held April 6, 1956, in Springfield, Mo., was attended by 5,522 employees and townspeople. In honor of the rally, Mayor W. M. Turner had proclaimed April 2-6 as Springfield Safety Week. The program included safety talks and entertainment.

A Family Affair And a Personal Thing

In communities along the Frisco you'll find safety programs planned to protect the employee, his family and his neighbors, with the employees themselves taking the initiative

FOR A MAN to be truly safe, he must live in a *safe* atmosphere ...one in which safety is observed at home, in his children's schools and on the streets, as well as at work.

The St. Louis and San Francisco Railway—seldom called by its official name—has made this its safety philosophy. Its meaning was well expressed in the title of an article in *Railway Age:*

On the Frisco...Safety Is a Family Affair.

And to this slogan has been added: *Safety is a personal thing.*

The Frisco likes to think of it that way, for its management be-

lieves that there is much more to a safety program than merely creating safe working conditions. And anybody who attended one of the family safety rallies for which the railroad is famous cannot fail to be impressed with the fact that safety is a vital force in the railroad's operation, extending from the executive offices in St. Louis through every branch line.

The first family night was held on a December night in 1947. The place was Thayer, Mo., a division-point community of slightly less than 2,000 population.

The meeting was something of a test for a recently reorganized safety department and a revitalized safety program. To President Clark Hungerford, then in his first year on the Frisco, belongs much of the credit for the rebirth of safety. Just two months before he had brought in Roy P. Hamilton to head the safety department. Mr. Hamilton, at one time a conductor on the Southern, had been general safety supervisor of the road's Southwestern lines where he had demonstrated his ability in safety management.

"I want a program that *moves*," President Hungerford told his new superintendent of safety. "One that's for the employee first, and the company second."

The kickoff family meeting at Thayer was Hamilton's answer. Employees were invited to bring their families to see entertainment put on by their friends and neighbors. There would also be some safety talks.

Employees and union representatives were rather skeptical

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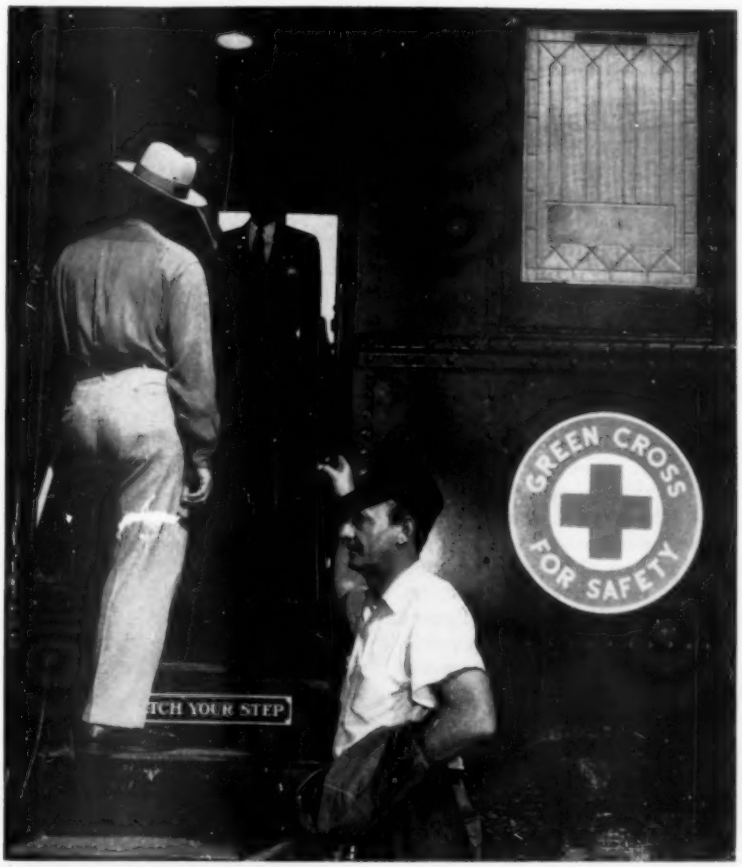


A CONVERTED SLEEPER provides a mobile classroom for training employees in both on-job and off-job safety. Inside the car (below) are several types of hand brakes, switches and couplers and a steam and air hose rack which employees may operate for practice. Seating capacity is 35. A screen is provided for movies and slide films. The car has its own diesel-powered 110-volt generating system. The Frisco makes extensive use of films in its own meetings and lends many to others.

Says Roy Hamilton:

Safety has become a science; there is more to the job than posting signs and spreading paint.

* * *

A thoughtful man can be trained to become the world's best safety device.

* * *

So you tell the boys to be nice and careful... and let it go at that. That's your safety program; it's simple; it's direct—it's no damn good.

Contests Aren't Cure-Alls

This one didn't work miracles but it did bring some long-range benefits

By CHARLES V. SHEDD

SAFETY ENGINEER Phil Bailey calls potential winners. Those who knew the slogan won a prize.

WE had just won the Award of Honor from the National Safety Council with a frequency of 3.96. Prior to this we had been given the Award of Merit for operation in excess of 2,000,000 man-hours without a disabling injury. These two awards represented the climax of a long downhill slope on the frequency and severity curves, and — most important—on all of the cost figures.

The big job ahead for our safety engineers and supervisors was to prevent a feeling of complacency from giving those curves a chance to bounce upward.

Our safety men felt that there is really nothing new as far as safety is concerned. Sure, we recognized that there are new types of guards and better forms of personal protective equipment, but people remain pretty much the same, and they're the ones that make or break a safety program.

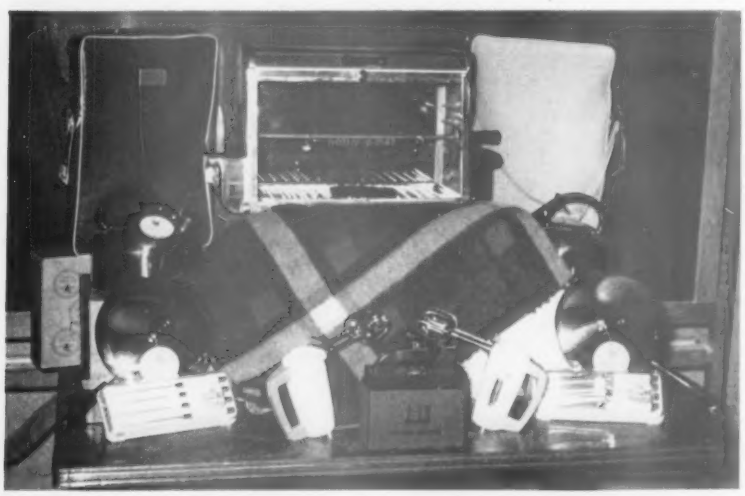
There always seem to be new ways of telling the same old story over and over again. We had used posters, held meetings, and of course, had relied a great deal on face-to-face contact to get the story across in the plant. They were all effective, but now we needed a gimmick to maintain interest in the dull, old subject of safety.

Our solution was a contest—not a very original solution—but it was new to our plant. We hoped that through the contest, which was designed to appeal especially to the wives of employees, that we would be able to stimulate the women into becoming unpaid safety engineers on our team.

In the back of our minds we had a vivid picture of a thousand wives bidding their husbands farewell each morning with a kiss and the tender words, "Don't forget to wear your safety glasses!"

We were sure that the contest would accomplish this noble purpose. Apparently our boss, Stan Freck, assistant to the president in charge of industrial relations, caught some of our enthusiasm, because in the early fall we got the official go-ahead.

CHARLES V. SHEDD is Communications Supervisor, Walter Kidde & Co., Inc., Belleville, N. J.



MIXERS, ROBES, LIGHTERS, kitchenware, knife sets, and rotissomats were among the prizes awarded to those who remembered the safety slogans when the lucky phone calls were made.

What Did We Do?

Every other week, starting early in October, we posted a slogan—one which had been carefully selected to pinpoint an accident hazard which existed in our operations. Through our employee newspaper, bulletin board notices, and by word of mouth, we urged our employees to take the slogan home and to post it near the phone.

On alternate Wednesdays we phoned the homes, which were

selected through an impartial drawing. Just to make sure that there would be no question about the fairness of the drawing, we included representatives of both our shop and office unions among those who drew the names. We wanted to find wives who could tell us what the slogan was, and as bait for being able to recite it, we offered attractive prizes—revere ware, portable mixers, auto robes, table lighters, and steak knives.

Just to make certain that everyone would have an equal chance to win, we made a special provision in our rules that if there were no answer at home, we would contact the employee whose name had been drawn at work. All single men and all women were contacted without bothering to make the call home.

As a grand prize we offered a rotissomat to be given away Christmas week, with the provision that only those persons who had sent in slogans would be eligible for the drawing. Frankly, we wern't really interested in the quality of the slogans. We were looking for an indication of interest.

The rules seemed simple enough. We were sure that we had started something that would be a tremendous success. We expected that people all over New Jersey — people who had never heard of Walter Kidde & Company before — would be talking about our amazing project.

CONTEST SLOGAN NO. 1
While at work or Away—Safety Will Pay
PAY-OFF ON THIS SLOGAN WED. OCT. 15
CONTEST SLOGAN NO. 2
Safety Glasses don't help you to see better—only longer!
PAY-OFF ON THIS SLOGAN WED. OCT. 22
CONTEST SLOGAN NO. 3
Keep your fingers in the clear and you'll keep your fingers
PAY-OFF ON THIS SLOGAN WED. NOV. 12
Watch this space for Contest Slogan
6
to be posted Next Week
Copy it - Take it home - Leave it near the phone!!!
CONTEST SLOGAN NO. 6
Eye it before you try it—if it's too heavy, get help
JACKPOT PRIZE - WED. DEC. 22
CONTEST SLOGAN NO. 4
Work carefully - your first accident could be your last
PAY-OFF ON THIS SLOGAN WED. NOV. 24
CONTEST SLOGAN NO. 5
A Safety Award is better than a Compensation Award
PAY-OFF ON THIS SLOGAN - WED. DEC. 8

PAY-OFF SLOGANS were posted at two-week intervals on all bulletin boards.

What Happened?

We were never so wrong!

The contest ran for a total of 12 weeks. In addition to the grand prize, we gave away a total of 15 smaller prizes. In the entire period of the contest we were never able to locate a single wife who knew the slogan! Every one of the prizes was given away in the plant, and by virtue of that special rule that we had inserted just to make sure that it would be fair to everyone. Even our supervisors, who were included in the contest, let us down. Five of them were called, and not one knew the right answer.

Suddenly that beautiful picture of a thousand safety engineers in pin curls vanished.

The biggest blow of all came when it was time to give away the big prize. Only 56 persons had turned in slogans so that they would be eligible to win the rotissomat.

Was it possible every home already had a rotissomat? We could hardly believe that.

The only conclusion was that we had failed.

Then we started looking back on what had happened.

In the cold, sober light of retrospect we began to see a number of things. First, it was entirely

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ISADORE LEVINE (left) and Harold Williams study slogan No. 3 to prepare for a phone call from Contest Committee.

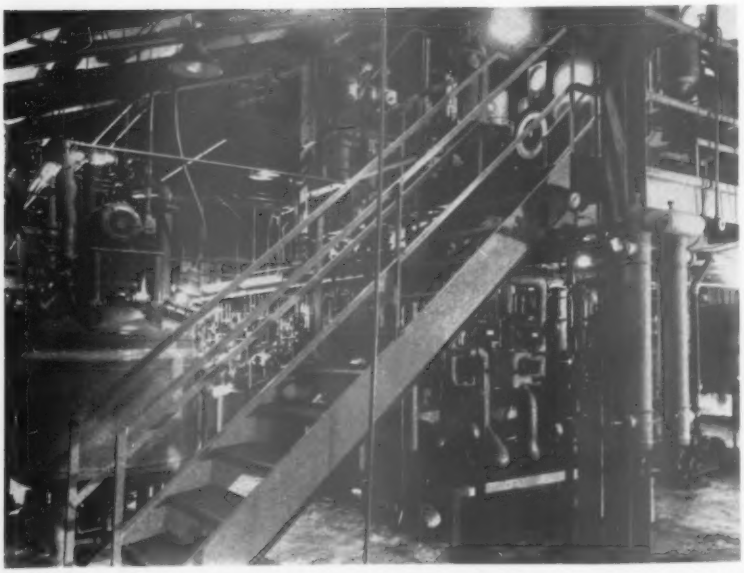
JOE DeFABBIO submits his safety slogan personally to Mrs. Edith Racioppi of the safety office.

Where Hazards Aren't Predictable

FLYING above the Government Laboratories are the Stars and Stripes and the Green Cross Safety Banner.

Protective devices aren't enough in pilot plant experiments with new materials and equipment. Education, communication and cooperation are also needed

By W. K. TAFT and F. T. REYNOLDS



PILOT PLANT polymerization equipment. Safety devices needed for maintaining an explosion-proof area are included.

THE MEN were performing a job that had been done 100 times without mishap. Suddenly there was a burst of flame. Two men were hospitalized with severe burns and months of accident-free operations came to an end. Only their safety glasses saved the workers from total blindness.

This was an experimental situation where the only way to eliminate the risk is not to do the job. The equipment has since been revamped and further protective devices and procedures have been added, but the risk has only been lessened, not eliminated.

This incident illustrates an in-

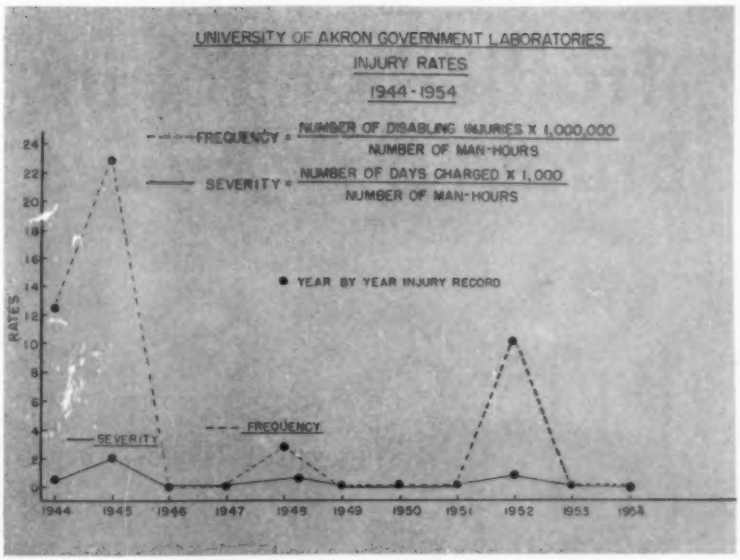
W. K. TAFT and F. T. REYNOLDS are with the University of Akron Government Laboratories, Akron, Ohio. The laboratories are maintained under the auspices of the Office of Synthetic Rubber, Federal Facilities Corporation.

herent problem in pilot plant operations: they are necessarily somewhat hazardous. Unlike an established production program where all details have been explored and work is systematized, a research and development project often uses new materials and new equipment with results that can be highly unpredictable.

The Government Laboratories works with volatile hydrocarbons and poisonous or irritating chemicals where risk of violent chemical reactions is always present. A tightly-managed safety program is an absolute essential in such a situation.

Though the safety director at Government Laboratories has the authority to stop any and all operations at any time he sees fit, operation of any one unit has been stopped only two or three times in 10 years. In setting up and carrying out the program the safety director has the assistance of various operating and technical personnel in management who give technical advice on specific problems.

In this sort of arrangement communication prior to decisions must be rapid. To accomplish this, the operating supervisor in any department, his technical supervisor, the chief of the engineering and maintenance group, and the plant manager generally are consulted orally and a follow-up in writing is put through channels later. This group has often found flaws in proposals which might have been disastrous had they been adopted.


UNIVERSITY OF AKRON GOVERNMENT LABORATORIES
INJURY RATES
1944-1954
FREQUENCY = NUMBER OF DISABLING INJURIES X 1,000,000 / NUMBER OF MAN-HOURS
SEVERITY = NUMBER OF DAYS CHARGED X 1,000 / NUMBER OF MAN-HOURS
YEAR BY YEAR INJURY RECORD
RATES
SEVERITY
FREQUENCY
1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954

To minimize the risk factor of any individual's action, regular safety meetings at two levels have proved very successful. A monthly meeting conducted by the safety director with supervisors and department heads accomplishes three things:

1. Last month's record is explained and discussed.
2. Those attending are informed and indoctrinated with the policies management wishes followed.
3. The safety director is brought up to date by those responsible for operations.

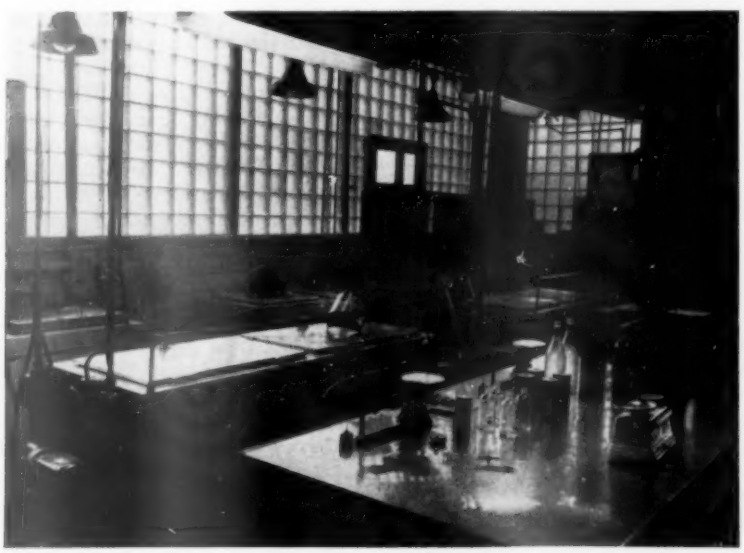
At a lower level, each supervisor holds a departmental safety meeting to pass on policy decisions, explain how to handle problems, and to receive from workers their safety suggestions and complaints.

Labor has a definite place in a safety program. However, labor's place in administering safety is controversial. Labor feels, rightly, that it should have a part in a safety program. But what part?

Employees must be allowed a means of expressing themselves and of feeling that they have a real part in the program as a group as well as individually. We want the help of labor, and to obtain this help we insist that every suggestion made at department safety meetings be answered. This is done by sending copies of all suggestions recorded in the minutes of the meetings to the safety director and the union safety committeeman.

Copies of the minutes of the meetings giving the answers—even if a definite solution has not been reached—are sent to the union committeeman as well as to management. In this way, workers know that their suggestions are brought to the attention of management and given consideration. Also, many items other

—To page 160



BOTTLE SCALE polymerization laboratory showing personal protective equipment along with laboratory safety devices.

Traffic Control in Britain's Skyways

By H. A. TAYLOR

Smaller areas, fewer terminals, and easier segregation of airways make problems less acute than in the U. S. But the turbojet promises new complications.

AERIAL of the Micro-Wave Early Warning unit, (known as MEW), with its distinctive orange and white stripes is on the edge of London Airport, Hounslow. Among the navigational aids are four different types of radar enabling the control staff to monitor aircraft within 150 miles of the airport.

THE relatively sudden increase in public anxiety about air-collision risks in the United States has not yet been echoed in the United Kingdom or on the Continent of Europe. Those who are watching the air-safety situation and who are responsible for air traffic control have started on this problem, but there is not the evidence to justify the kind of anxiety which is being felt in the U. S.

H. A. TAYLOR is Assistant Editor, dealing with all civil transport affairs, of the British aviation journal *The Aeroplane*.

There are two main reasons why we, in Europe, have a little more time on our side. In the first place, we have nothing like the same air congestion problems. Although the airline traffic in the busier terminal areas is often nearly as heavy as it is in the U. S., there is far less military flying and a negligible amount of private and business flying.

The second reason is that air traffic control in the United Kingdom is more close-knit and complete than it is in the United States—a situation made possible because the areas involved are comparatively small, the main terminals few, and the airways more easily segregated. Except for the saturated airspace in the south-east corner of England, the British control system is, at present, technically ahead of the existing air-traffic volume needs.

In England three air traffic control centers look after three "information regions"—and the airways which cross these regions. At the busiest of these centers, in London, the incoming and outgoing traffic on the different airways is parcelled out into seven sectors, looked after by teams of controllers who sit side by side at their progress boards and radar tubes and pass the aircraft on to each other.

Similarly, this center passes on, or is passed, the control of the aircraft to and from London Airport's tower, which looks after arriving and departing aircraft.

There is a clear distinction between the centers, which are responsible for all route traffic, and the airport control, which is responsible only for the traffic which is either arriving at or departing from the airport. A significant feature of British air traffic control methods is the continuous and complete attention paid to all route traffic in and around the country. This has been made effective by a radio system. It is known as "V.H.F. area coverage" and might be described as a means for the retransmitting or "boosting" of the otherwise short-ranged radio telephony. The effect is that airline crews can remain in voice communication with the traffic control centers whenever they may be over or around the United Kingdom.

The other feature of the British traffic control system is long-range surveillance radar. Since the first long-range radar was brought into limited use five years ago, (at that time it was U. S. war-time equipment) radar has become an essential link in the traffic control system. Now it is used not merely to supply monitoring or supporting information for the controllers, or for short-range guidance (as with G.C.A. talk downs), but for positive identification and control up to distances of 80 miles.

In the southern control center at London Airport the "procedural" controllers work in cooperation with the radar controllers to form combined units of traffic control. Specialized radar equipment is also being used for the control of aircraft and vehicles on the ground in poor visibility.

One of the troubles with present radar "pictures" is that the individual points of light on the displays cannot immediately be identified as particular aircraft. The next move in Britain, as in the U. S., will probably be the introduction of airborne "transponders."

These, which are, in effect, "echo" boosters and identifiers, should make it possible for the controllers to pick each aircraft out at a glance. Their introduction may also make it easier to distinguish any "rogue" aircraft in the controlled airspace. During the next few years it may be possible to develop satisfactory computers which will take some of the routine load off the controllers—though the human brain will always be superior to any "black box" when judgments have to be made.

The British have for many years regarded radar as the only foreseeable means of reliable air traffic control. For route control they may continue to depend on a first-class radio coverage, coupled with the good sense of the aircrews.

The real problem, in Britain as in the U. S., will be that of sorting out the route traffic when a turbojet proportion of it will be flying in the altitude spectra which are at present considered to be free for the use of military aircraft. Then we shall have to depend even more on radar—for which some practical kind of three-dimensional display may need to be developed.

CONTROLLERS at the Air Traffic Control Centre, London Airport, identifying aircraft on a microwave early warning unit. They are also in touch with aircraft by Very High Frequency radio telephony.

SCENE AT LONDON Airport, largest and busiest in Europe and also the safest, in the opinion of international air line pilots. Passengers are walking from covered ramp to Air France plane bound for Paris. (Photos by British Information Services)

Will You Be There?

44th National Safety Congress and Exposition

October 22-26, 1956

Chicago

CHICAGO is now the permanent home of the National Safety Congress. This was confirmed at the meeting in New York April 16 of the Board of Directors of the National Safety Council with the adoption of the recommendation to that effect made last December by the Industrial Conference.

Other indications and events contribute to the outlook that the 44th Congress, October 22-26, will

DATE AND HOTEL ASSIGNMENTS

	(Hotel)	Oct. 22 Monday AM	Oct. 22 Monday PM	Oct. 23 Tuesday AM	Oct. 23 Tuesday PM	Oct. 24 Wednesday AM	Oct. 24 Wednesday PM	Oct. 25 Thursday AM	Oct. 25 Thursday PM	Oct. 26 Friday AM
Sectional Sessions										
Aeronautical Ind.	Hilton		X				X			
Air Transport	Hilton				X					
Auto. & Mach. Shop	Congress				X				X-jt.	
Cement & Quarry	Hilton				X		X			
Chemical	La Salle		X		X		X		X-8	
Coal Mining	Hilton		X		LX		X			
Commercial Vehicle	La Salle			X	X	X	X	X-jt.	L	
Construction	Hilton		X		X					
Electrical Equip't	Hilton						X		X	
Fertilizer	La Salle		X		LX					
Food	Morrison		X		X		LX8		X	
Glass & Ceramics	Congress		X		X					
Marine	Morrison				X	X	X	B	LX	
Meat Pkg.—Tng. & L.	Congress		X		LX					
Metals	Hilton		X		X2		L		X2	
Mining	Congress		X		LX		X		X	
Occ. Health Nursing	Hilton			X		X			L	
Petroleum	Hilton		X		X2		X3		X	
Power Press	Congress						X		X-jt.	
Printing & Publ'g	Hilton						X		X	
Public Employee	Hilton		X		X		X			
Public Utilities	Hilton				X				X3	
Pulp & Paper	Hilton		X		X		X4		LX	
Railroad	Morrison				X		LX		X	
Rubber	Hilton		X		LX					
Textile	Hilton		X		X					
Traffic	Congress		X	X	X	X	X	X	X	
Transit	La Salle			X	X	X	X	X-jt.	L	
Wood Products	Hilton		X		X		X		X-jt.	
Divisional Sessions										
Farm	Morrison		X	X	X	X	X	X	X	
Home	Hilton					X		X		
Labor	Hilton					X				
School & College	Morrison		X	X	X	X	X	X	X	
Women's Activities	Hilton-Black		X		X					
ASSE—Subject Sessions										
ASSE Ann. Mtg.	Hilton			X						
Subject Sessions	Hilton, Congress & La Salle					X		X		X
General Sessions										
Annual Council Mtg.	Hilton	X								
Banquet	Hilton						XEve.			
Early Morn. Sess.	Hilton			X		X		X		X

X One session
X3 Three group sessions
L Luncheon

X-jt. Joint session, two or more Sections
B Breakfast meeting

be one of the biggest and brightest ever.

For the first time since 1947, when the Council adopted its conference organization, a new operating conference will be a feature of a National Safety Congress.

The newcomer, the Labor Division, is slated for its initial session Wednesday morning, October 24. Formed during last year's Congress, the Labor Conference held its first meeting in New York, April 16. Program details for its maiden Congress appearance are being prepared and will be reported in next month's NEWS.

As in other years, the Congress as a whole will be built around the Council's programs. In addition to labor, these are industrial, traffic and transportation, farm, school and college, home, and women's activities.

The speaker at this year's early morning sessions will be David Guy Powers, noted sales and advertising consultant. A professor at Queens College, New York, where he is on sabbatical leave, and a partner in Shea-Powers Associates, New York, Dr. Powers is well known as an educator, lecturer, and author.

He has written 11 books, including several texts which are used in 147 universities and colleges, and has been heard nationwide as a commentator on the Mutual Broadcasting System.

Prepared for the expected 12,000 convention visitors will be 13 Chicago hotels where reservations already have been made.

The Trades and Services Section will graduate from its provisional status and attain full sectional position on Sunday, October 21. Its meeting on Thursday, October 25, marking its first Congress appearance as a full-fledged section, will see the addition of the Laundry, Cleaning, and Dyeing Division. The Section's other divisions are Restaurants, Hotels, and Mercantile and Warehousing.

The Food Section will celebrate its 30th anniversary next October. Its Thursday afternoon Congress session will feature an "I've Got a Secret" program based on the format of the television show of the same name.

Bridey Murphy Material

The way most people conduct themselves these days, you'd think they were trying to get back to the spirit world to try for "The Big Surprise" as to the kind of deal they can get on the re-incarnation market. At the rate we're going, old Satan will start charging a premium just to let people pass the veil.

People are so inconsistent, too. Maybe they just can't make up their minds until they get the proper signal from the beyond.

Sammy wouldn't drive his car if he couldn't get a periodic checkup—but he hasn't had a physical checkup in 25 years.

Ernie spends hours training the kids not to cross in the middle of the streets—and not to run from between cars—but drags them across the street "on the red" everytime he goes shopping.

Van spent days and dollars landscaping his house and flower garden. Then, got his eyes put out with an acid splash—not wearing goggles.

Augie used to give the most rapt attention every night to his TV set and beer can—but got tangled up in his lathe, because he was thinking of something else.

Ole Paul really took pride in keeping his new car cleaned and polished—then got the seven-year itch because he wore the same oily coveralls at work for six months.

Argyle spent all summer working with a citizens' committee, battling authorities to get a stop sign at the intersection near his house. Now I see he rolls through it every morning as he drives to work.

Walter screamed his head off wanting to crucify the guy who ran through the stop sign and nicked his fender. But he's sure trying to sue out a "writ of fix" for himself since the cops picked him up for speeding.

Marty raises Cain with the kids for making a mess at home with their toys—but you ought to see the piles of debris he climbs over to get to his work bench.

Clyde won't let the little woman pick up anything at home—afraid she'll strain the wrong muscles—but you ought to see him making like a weak-minded Atlas on the job.

When my personal hypnotist recently took me on a tour of my past lives, I noticed that even over the centuries most of us haven't learned a lot about keeping ourselves safe. I understand, even, that Freddie had a violent end his last three times out.

To tell you the truth, I don't think you'd better put too much stock in getting re-born into better circumstances. In fact, probably a lot of guys come back as the asses they made of themselves while still flickin' an eyebrow.

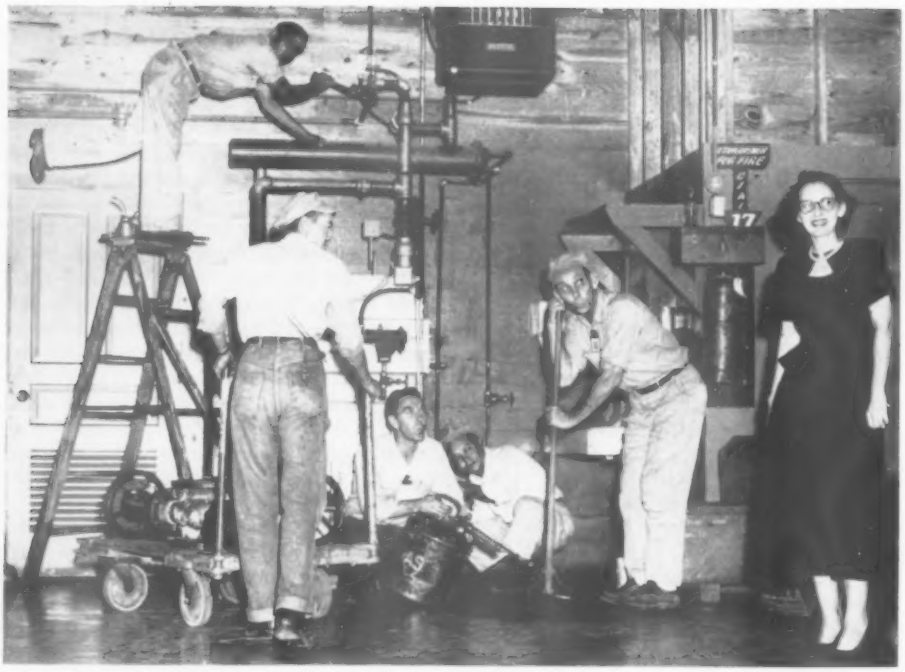
ROBERT D. GIDEL

Food chain store members of the Council will decide during Congress week whether to remain with the Food Section or to switch to the Mercantile and Warehousing Division of the Trades and Services Section.

The Fertilizer Section has extended to Congress week its intensive, three-month membership drive which was scheduled to end May 31. Every fertilizer manufacturing plant in the United States not already a Council member will be contacted during the campaign.

Winners of the Fertilizer Section's current "Picture of Safety" contest, which will close June 30, will be given recognition during the 44th Congress.

The American Society of Safety Engineers has scheduled 15 morning subject sessions on topics ranging from crash injury research and employee attitudes to nuclear energy in industry and comprehensive job placement. Also included will be a progress report on machine guarding and a demonstration of electrical hazards. *—To page 128*



WHAT'S WRONG in this pic? The gal seems to be causing a distraction, but several other things here would give a safety man the jitters.

Your Friend the Editor

The employee publication is a medium that's hard to beat. The editor can help give your safety stories the right approach. And don't overlook eye-catching pictures

By IRVIN K. WEINMAN

PUBLICITY alone won't stop accidents. Used effectively to keep workers indoctrinated, it will help minimize them.

What is the best way to reach the largest number of people with your safety messages? Surveys have shown that base newspapers —the Air Force counterparts of employee publications—have an amazing 98 per cent readership among military and civilian personnel. Since these papers—like house organs—are often taken home and read by families, you can multiply the circulation by three and you'll have roughly that many people reading about safety.

How do you get material into your employee publication? I suggest the best way is to appoint a representative from the safety organization to be your contact with the editor. The editor, like you, wants to help prevent accidents, but his first responsibility is news and reader appeal. If your material qualifies as news and has reader appeal, you'll be helping the editor produce a bet-

—To page 149

ONE PHOTO with two eye-catching elements. It went with a story about how to avoid snake-bite around the base and on picnics. The girl? She's just there to attract attention. They usually do.

IRVIN K. WEINMAN is Information Services Officer, San Antonio Air Materiel Area, Kelly Air Force Base, Texas. This article has been condensed from a presentation at the AMC World Wide Ground Safety Conference at Kelly AF Base, February 28-March 2, 1956.

TWO PHOTOS were used in this illustration to warn workers of the long weekend ahead. One picture showed a bunch of cars piled on top of each other; the other was familiar background scene. The photo lab pasted the two together, added a fire truck and some skid marks.

THIS IS the kind of picture readers (and editors) fall for and it shouldn't be necessary to give the reasons. The photo was used to give added impetus to the S-D Day Campaign and it was used in several publications besides the base paper.

THIS PICTURE was used with some misgivings but it made a hit. It was billed as "the most dangerous animal in the world." It had horsepower without horse sense. Readers were warned that they might run across one if they drive after drinking. Trick photos are always eye stoppers.

THIS WAS a popular photo, naturally, and it was widely reprinted. What could have been more appropriate for Valentine's Day!

LEFT: Ways of adding variety to a scoreboard seem to be unlimited. This one attracted considerable attention. Standings were figured by multiplying the number of accidents by 100 and dividing by the number of men in each unit. One point was charged for a minor injury; 10 for a disabling injury. **RIGHT:** Getting a presentation picture that's different is always difficult. The sign in the background helped—so did the girl.

INSTRUMENTS FOR TESTING EXHAUST VENTILATION SYSTEMS

Published by National Safety Council
425 North Michigan Avenue, Chicago 11

1. An exhaust ventilation system, like any piece of equipment, must be periodically tested or checked in order to ensure that it is operating according to design and is fulfilling the purpose for which it was installed. There are numerous reasons for testing exhaust systems, chief among which are the following:

a. To determine whether or not a new system is operating in accordance with design data.
b. To obtain air flow data necessary for balancing the system by setting blast gates.
c. To determine where and when repairs are necessary.
d. To determine the ability of the system to allow for expansion.
e. To provide data to indicate the degree of compliance with regulations.
f. To determine whether the system can handle the volume of gases generated by reactions planned to take place within the hoods.

This Data Sheet is one of a series published by the National Safety Council, reflecting experience from many sources. Not every acceptable safety procedure in the field is necessarily included. This Data Sheet should not be confused with American Standard Safety codes, federal laws, insurance requirements, state laws, rules and regulations, or municipal ordinances.

Details of Exhaust System

2. A local exhaust ventilation system is installed to prevent the dispersion of excessive quantities of air contaminants (dust, fume, vapor, gas) arising from industrial processing. Such dispersion might be within the plant or in the community outside the plant.

3. A local exhaust ventilation system consists of the following essential parts:

a. An exhaust opening (hood) which directs a movement of air toward and into it.
b. Duct work for transporting the contaminants through the system, from the exhaust inlet to a point of collection or discharge.
c. A collector for trapping the contaminants, if necessary, to prevent redispersal either within or outside the plant.
d. An air-mover to create movement of air through the system.

4. Complete testing of an exhaust system should include each of these parts.

5. If any one part is to be given emphasis, it should be the exhaust hood. The size, shape, location, and ventilation rate of the hood determine the ability of the system to perform its major function, i.e., prevent dispersion of contaminants into the breathing zone of workers.

6. Careful consideration should be given to possible explosive hazards of the materials being exhausted.

7. Spot evaluation for explosive gas or vapor can be made in exhaust ducts, hoods, and completely enclosed systems by a portable combustible gas indicator. Where concentrations approach 25 per cent of a lower explosive limit mixture, the use of continuous monitoring analyzers may be required. These analyzers ensure against failure of ventilating equipment, whether from mechanical or human error.

8. These units provide for an audible signal when the concentration exceeds that set for standard operation. When the concentration reaches a designated limit, the units automatically provide for auxiliary ventilation or shutdown or both, eliminating the possibility of an explosive concentration.

Basic Theoretic Factors

9. The testing of an exhaust system is largely a measurement of pressures. It is therefore essential that the pressures involved in the flow of air through ducts be understood.

10. Air flow is induced when a pressure differential exists between two points. This pressure differential literally pushes the air from the point of higher pressure to that of lower pressure. The linear speed at which air moves is called *velocity*, and air moving at a specific velocity will create a pressure called *velocity pressure*, which is exerted in the direction of air flow.

11. There is a basic relationship between velocity of air and velocity pressure. It is expressed

$$V = 4{,}005\sqrt{vp}$$

under standard conditions of

Figure 1. Tilting vane anemometer (Velometer). (Courtesy Illinois Testing Laboratories, Inc.)

air density (70 F. and one atm). In this equation V is expressed in feet per minute (fpm), and vp in inches of water.

12. In addition to the velocity pressure, air, whether or not in motion, also exerts a pressure perpendicular to the walls of a duct or enclosure. This pressure is known as *static pressure* and is independent of the velocity of the air. The algebraic sum of the static pressure and velocity pressure is called *total pressure*. All these pressures are accurately measured with a Pitot tube and manometer.

Pressure Losses

13. Resistance to air flow in a duct involves certain pressure losses, which result from friction and dynamic loss. The latter is due to changes in direction or velocity, such as in elbows or enlargements, while friction loss arises from the resistance of the duct surfaces and collectors to air flow. Consequently, as air flows through a system, there is a drop in pressure from point to point.

14. Because of these resistances, it is necessary to use a fan to maintain a pressure differential between the two ends of an exhaust system. The fan delivers air at a static pressure to overcome the resistance of the system. Any change in the static pressure, therefore, will indicate an alteration in the resistance of the system. These data are essential in the testing of exhaust systems.

15. An exhaust system should be tested for pressure drop at various points throughout the system, such as across dust collectors and at the fan.

Air Quantity

16. Generally, the most essential measurement in testing local exhaust ventilation systems is the determination of air quantity, i.e., cubic feet of air per minute. Most codes for exhaust systems require, among other things, specific air volumes through hoods at specific operations.

17. Since most field air-flow measuring devices measure velocity rather than quantity, air velocity at any point and the cross sectional area at that point must be measured to ascertain air quantity. These two measurements may then be applied to the simple equation:

$$Q = AV \qquad (1)$$

where

Q = quantity of air flow in cfm.
A = cross sectional area in square feet at point of velocity measurement.
V = average velocity in fpm.

Measuring Instruments

18. Velocity measurements obtained in the field are generally made with a Pitot tube, where the measurement is made within a duct, or an anemometer-type instrument, where the measurement is made at the face of a hood opening.

Pitot Tube

19. The standard air velocity meter is the Pitot tube. All other velocity meters are calibrated against it. A detailed description of it can be found in the *Standard Test Code for Centrifugal and Axial Fans,* published by the National Association of Fan Manufacturers and the American Society of Heating and Ventilating Engineers. (See References.)

20. The Pitot tube must be used with a vertical U-tube manometer or an inclined manometer. These manometers must always be level and must contain the type of fluid with which they were calibrated.

Figure 2. Fittings for tilting vane anemometer (Velometer). (Courtesy Illinois Testing Laboratories, Inc.)

21. The accuracy of the Pitot tube depends largely upon correct measurement of static pressure, which requires a measuring point away from elbows or obstructions. The Pitot tube is not accurate at velocities under 2,500 fpm. with a vertical manometer, nor under 1,000 fpm. with an inclined manometer.

22. A traverse with a Pitot tube is the approved method of determining the volume of air flowing in a duct. The traverse should be made, whenever possible, at a point at least 7½ diameters downstream from any major air stream disturbance, i.e., elbow, branch entry, etc.

23. The traverses should be made 90° apart, each set of readings spaced so as to be at the center of annular rings with equal area. It is usual to take 5 readings across ducts over 12 inches in diameter and 3 in smaller ducts.

24. A reading obtained in a shorter section of straight duct must be checked against a second location. Reasonable accuracy can be assumed if the air volumes determined from measurements secured at the two locations check within 10 per cent. When such a 10 per cent check is not obtained, a third location should be selected and the two volumes in best agreement averaged.

25. A satisfactory estimate without the 10-point traverse can be made in round ducts by obtaining a centerline reading at a location preceded by at least 10 diameters of straight duct. The average duct velocity is then determined by multiplying the centerline velocity by 0.91 or the centerline velocity pressure by 0.81.

26. Where the temperature of the air stream exceeds standard temperature (70 F.) or the altitude is greater than 1,000 ft, corrections must be made by using the following equation:

$$V = 1{,}096 \sqrt{\frac{vp}{0.075\ D}} \qquad (2)$$

where

V = velocity in fpm.
vp = velocity pressure in in. of H_2O.
D = relative density of air.

27. At standard or so-called normal conditions (70 F. and 29.92 inches of mercury), the formula is simplified as follows:

$$V = 4{,}005 \sqrt{vp} \qquad (3)$$

28. In conclusion, the essential data to obtain in using a Pitot tube are:

a. Diameter of duct.
b. Velocity or pressure at each point in the traverse, or the centerline velocity or pressure.
c. Temperature of the air in the duct.

Figure 3. Low range jets. (Courtesy Illinois Testing Laboratories, Inc.)

Manometer

29. The manometer or U-tube is one of the most commonly used and oldest types of pressure gauge. Its sensitivity is increased by inclining it at an angle for scale magnification.

30. A manometer must always contain a fluid having the same specific gravity as that with which it was originally calibrated. The accuracy of the inclined manometer is dependent upon the slope of the tubes. Therefore, the base of the gauge must be leveled with precision. Manometers calibrated to read directly in terms of the velocity, using Equation 3, are available.

Figure 4. Rotating vane anemometer. (Courtesy Davis Instrument Co.)

Rotating Vane Anemometer

31. Anemometer-type instruments are the most widely used in industry. The most popular are discussed herein. Others are available and are described in standard exhaust ventilation references.

32. The rotating vane type is the commonly called "anemometer." The recording dials indicate the linear feet of air passing in a measured length of time. The most common sizes are 3, 4, and 6 inches for both pressure and exhaust readings. The instrument is directional, and each one requires individual calibration. It is not sensitive below 200 fpm. It is delicate, requires frequent calibration, and is subject to corrosion.

Swing Vane Anemometer (Velometer)

33. The Velometer is the most commonly used instrument for testing exhaust ventilation systems because of its portability, wide range, and instantaneous readings. Its various attachments measure a wide range of velocities, both at hood faces and in ducts, and also measure static pressures. It has a minimum velocity of 50 fpm., unless a special instrument is used, and is accurate enough for most field tests. Greater accuracy can be secured by use of correction factors. (See References.)

34. Before the Velometer is used, the zero setting should be checked by holding the meter horizontal and covering both ports so that no air can flow through it. If the pointer does not come to rest at zero, the "Z" adjuster should be turned to make the necessary correction. The meter should then be checked for balance. After the zero has been set, the pointer should not deviate more than ⅛ inch from zero when both ports are closed, regardless of the position in which the meter is held.

35. A Velometer and its fittings are originally calibrated as a unit. Fittings cannot be switched from one Velometer to another. The serial number on the fittings and that on the meter must agree. If the meter was originally calibrated with a filter, a filter must always be used.

36. When fittings are used, the meter should not be held in the main air stream. The fittings should be held so that the air flows directly into the opening. Since the length and inside diameter of the connecting tubing affect the calibration of the meter, it is important to use only connecting tubing of the same length and inside diameter as that originally supplied with the meter.

37. If the temperature of an air stream varies more than 30° from the standard temperature of 70 F. or if the altitude is greater than 1,000 ft, it is advisable to make a correction for temperature and pressure as outlined under the discussion of the Pitot tube (paragraph 26).

38. When the exhaust opening is in excess of 3 sq ft and the velocities are low, as in chemical hoods or spray booths, the Velometer can be held in the air stream. It should be held so that the left-hand opening of the meter is flush with the vertical plane of the exhaust opening.

39. Where the hood area is less than 3 sq ft and the velocities are above the "No-Jet" scale, the necessary fittings must be used. The finned opening of any fitting must be held flush with the plane of the exhaust opening, because the velocity and static gradients in front of an exhaust opening are steep. If the exhaust opening is covered by a grille, the fin must be held directly against the grille and correction factors must be used. (See References.)

40. As is the case with all instruments, the Velometer has several limitations or disadvantages. It requires a larger hole in duct work than does a Pitot tube. The hole in the duct must be free from burrs, and the suction fittings must be concentric with the hole. Failure in the latter condition may result in a wide variation in measurements.

41. The instrument tends to read too high at high velocities. In addition, it tends to read too high on the suction side of a fan and too low on the blowing side.

Thermal Anemometers

42. There are two main types of thermal anemometers, namely, the heated thermometer and the heated thermocouple.

43. The heated thermometer anemometer consists of two thermometers. One has a resistance winding on the bulb through which current is supplied in a measured quantity. The temperature differential between the heated and unheated thermometers at the same location, with the current reading, allows one to determine the nondirectional velocity from a calibration curve.

44. The instrument can be used both inside and outside ducts and can measure velocities accurately from 10 to 6,000 fpm. Its disadvantages are that it has slow response and nondirect reading and is too fragile for general field usage.

45. The heated thermocouple anemometer operates on the same principle as the heated thermometer, with a thermocouple replacing the thermometers. A voltage is generated between the hot and cold junctions. A flow of air tends to cool the hot junction, thus decreasing its output from the thermopile. The voltage output is a measure of the velocity of air moving past the thermopile.

46. This instrument is not as fragile as the heated thermometer. It is a comparatively new type of air motion measuring device and appears to have merit as a nondirectional velocity anemometer for field use.

Essential Tests

47. The effectiveness of any exhaust system in performing the function for which it was installed, namely, preventing excessive air contamination, is measured by the degree of such contamination. Therefore, once the system has been designed and installed, periodic measurements of air flow and pressures and other observations are essential.

48. Collection of data will serve little purpose if a permanent record is not maintained so that periodic test data can be compared. Any type of form which suits the individual's needs will suffice.

Air Volume

49. Air volume should be determined for the entire system and in each branch duct. In the latter, one of the simplest and most practical methods is the throat-suction method. It is quite accurate if the suction (static pressure) measurement can be made at a point 1 to 3 diameters of straight pipe downstream from the throat of the exhaust hood and if an accurate estimate of the coefficient of entry can be made. This estimate can be made from standard industrial ventilation texts.

50. The technique involves the measuring of static suction by means of a U-tube manometer at one or more holes (preferably four, spaced 90° apart), at a point 1 duct diameter downstream from the throat for all hoods having tapers, and at a point 3 duct diameters downstream from square ends. The holes should be drilled 1/16 inch in diameter or less; the holes should not be punched because inwardly projecting jagged edges of metal disturb the air stream. The U-tube manometer is connected to each hole in turn by means of a thick-walled soft rubber tube, and the difference in the height of the water columns is read in inches.

51. If an elbow intervenes between the hood and the suction measurement location, the pressure loss caused by the elbow should be determined and should be subtracted from the reading, to give the suction produced by the hood and throat alone.

52. The values for entry coefficients for various hood shapes and pressure loss in elbows may be found in any industrial ventilation

PLANT_____ LOCATION_____

BUILDING_____ DATE_____ SURVEYED BY_____

GENERAL DATA:

EXHAUST SYSTEM NO._____ DEPARTMENTS SERVED BY SYSTEM (1)_____

(2)_____ (3)_____ (4)_____

CHANGES MADE SINCE LAST SURVEY_____

HOOD DATA AND TRANSPORT VELOCITIES

POINT OF MEASUREMENT	DUCT DIAM. (INCHES)	PITOT OR STATIC READING (IN. WATER)	AIR VELOCITY (FPM)	AIR FLOW (CFM)	REMARKS
1.					
2.					

SYSTEM DATA:

POINT OF MEASUREMENT	DUCT. DIAM. (INCHES)	SP	VP	TP	CFM	
FAN INLET						
FAN OUTLET						

COLLECTOR DATA:

TYPE:_____ H_2O CONSUMPTION_____

INLET-SP_____ OUTLET-SP_____ PRESS. DROP_____

COLLECTION EFF._____ IN LOAD_____ OUT LOAD_____

FAN AND MOTOR DATA:

	NAME	SIZE	SP	TP	BHP	E (VOLTS)	I (AMPS)	W (WATTS)
FAN								
MOTOR								

ENVIRONMENTAL DATA: (REVERSE SIDE)

POINT OF SAMPLING	MATERIAL SAMPLED	CONCENTRATION FOUND (STATE UNITS)	REMARKS
1.			
2.			

CONSTRUCTION DATA: (CITE PARTS OF SYSTEM NEEDING ATTENTION)

HOODS_____

DUCTS_____

ELBOWS_____

COLLECTORS (CHECK FILTERS IF USED)_____

FAN AND MOTOR_____

Figure 5. Exhaust system survey form.

TABLE I

RECOMMENDED CONVEYING VELOCITIES

Material Conveyed	Duct Velocity fpm
Vapors, gases, fumes, fine dusts	1,500—2,000
Fine, dry dusts	3,000
Average industrial dusts	3,500
Coarse particles	3,500—4,500
Large particles, heavy loads, metal dusts, moist dusts	4,500+

text. (See References.) The volume rate of air flow is then determined by the equation:

$$Q = 1{,}096\ CeA\sqrt{\frac{h}{0.075\ D}} \qquad (4)$$

where Q = quantity of air flowing in cfm.
Ce = coefficient of entry.
A = area of duct in sq. ft.
h, = U-tube manometer static pressure reading in in. of water.
D = specific gravity of air.

53. For standard conditions of temperature and pressure, this simplifies to:

$$Q = 4{,}005\ CeA\ \sqrt{h,} \qquad (5)$$

54. A marked reduction in hood suction (static pressure) may be caused by any of the following:

a. Motor trouble
b. Belt slippage
c. Increase in collector resistance
d. Holes in duct
e. Loose connections
f. Accumulations in ducts or on fan blades
g. Addition of hoods
h. Changing of blast gate settings

55. The air volume handled through the hood should be checked against the requirements of state or local regulations or the recommendations in the *Manual of Industrial Ventilation* of the American Conference of Governmental Industrial Hygienists. (See References.)

56. The volume of the entire system can be determined at the fan by measuring the velocity and the diameter of the duct and then applying the data to Equation 1.

Velocity Tests

57. Velocity in a branch or main duct can be determined with a Pitot tube and manometer or with a swinging vane (Velometer) or heated anemometer. The velocity may be calculated from Equation 3. The result should be compared with the conveying velocities shown in Table 1.

58. The hood face velocities should also be determined periodically. These measurements can be made simply with a Velometer or heated anemometer.

59. Since design determines the effectiveness of any hood, despite velocity, each hood should be examined with the following questions in mind:

a. Is the hood as close as possible to the source of contamination?
b. Is the hood placed so it does not interfere with the worker's operations?
c. Is the source of contamination as completely enclosed by the hood as possible?
d. Is the hood located so that the contaminant is ejected or rises into it?
e. Is the volume of air handled adequate?
f. Is the worker's breathing zone free of contaminant?

60. The velocity at the point of contaminant generation is critical. It can be determined by one of the anemometer-type instruments and should then be compared with good practice. The range of recommended capture velocities is shown in Table 2.

Collector Resistance

61. The pressure drop across an air cleaning device should be checked periodically to determine damage to the collector and to disclose the need for cleaning, among other reasons. This check can be readily made by measuring the static suction in the duct in front of and beyond the cleaner. For this purpose, a permanent mounting of a U-tube should be used.

62. The average pressure drops across some air cleaning devices are shown in Table 3.

63. The efficiency of a collector should be determined periodically by sampling the contaminant in front of and beyond the collector. Assistance in this respect can be secured from equipment manufacturers, governmental industrial hygiene agencies, some insurance carriers, and private consultants.

Fan Tests

64. The total volume handled by a fan and the fan static pressures should be periodically checked and recorded. Methods for determining volume have been previously described, in which the velocity pressure *(vp)* and duct area are determined and substituted in Equation 1.

65. Measurement of pressure on the fan involves the measurement

TABLE 2
RANGE OF CAPTURE VELOCITIES

Condition of Dispersion of Contaminant	Examples	Capture Velocity fpm
Released with no velocity into quiet air.	Evaporation from tanks; degreasing, plating, pickling, etc.	50— 100
Released at low velocity into moderately still air.	Spray booths; intermittent container filling; low speed conveyor transfers; welding.	100— 200
Active generation into zone of rapid air motion.	Spray painting in shallow booths; barrel filling; conveyor loading; crushers.	200— 500
Released at high initial velocity into zone of very rapid air motion.	Grinding; abrasive blasting; tumbling.	500—2,000

TABLE 3
AVERAGE COLLECTOR RESISTANCE

General Type	Specific Type	Pressure Drop Inches H_2O
Fabric		2—4
Wet	Static washers	0.5 — 0.75
	Packed towers	1.5 — 3.5
	Wet centrifugal	2.5 — 6.0
	Orifice	3.0 —20.0
Centrifugal	Cyclone	0.75— 1.75
	High efficiency	3—8
	Cyclone	

of static, velocity, and total pressures at both the inlet and discharge sides of the fan. Any two readings at each location will allow the calculation of the other pressure, since total pressure is the algebraic sum of the velocity and static pressures.

66. Precaution must be taken on the inlet side, since here the velocity pressure is negative (suction). Therefore, the static pressure on the inlet side is not representative of resistance loss, but includes the velocity pressure and all resistance losses up to the point of measurement.

67. It can be observed, then, that the following relationships exist:

$$tp_i = sp - vp_i \qquad (6)$$
$$tp_o = sp + vp_o$$

where
i = inlet.
o = outlet.

68. Since fans are chosen from rating tables in which static pressure and motor size are given as functions of total pressure, determinations are made as follows:

$$\text{Fan } sp = sp_o + sp_i - vp_i \qquad (7)$$
$$\text{Fan } tp = tp_o + tp_i = sp_o + vp_o + sp_i - vp_i \qquad (8)$$

69. Motor size is determined by calculating the brake horsepower from this equation:

$$bhp = \frac{cfm \times tp}{6356 \times me \text{ of fan}}$$

where cfm = cubic feet per minute of air exhausted through the system.
tp = fan total pressure.
me = mechanical efficiency of fan (0.50 - 0.65 for centrifugal fans).

70. It is commonly desired to increase the capacity of an existing system by adding branches or increasing the flow through the system. It should, however, be borne in mind that the fan and motor may not be able to handle an additional load. The laws that govern the relationship of pressures and horsepower to speed of the fan often are not known. It certainly is not simply a matter of "speeding up the fan." At any new speed, the operating conditions will be determined by the following relationships:

cfm varies *directly* with fan speed.
tp and *sp* vary as the *square* of fan speed.
horsepower (hp) varies as the *cube* of fan speed.

71. It must be remembered that the above fan relationships apply only to a given system when no physical change in the number of ducts, pipe diameter, or collector is made. To illustrate what happens in "speeding up a fan," assume a 20 per cent increase in fan speed in a system having 5 inches of static pressure and 20 horsepower. The new *sp* and *bhp* are calculated as follows:

$$sp = 5 \times (1.20)^2 = 7.2"$$
$$bhp = 20 \times (1.20)^3 = 34.6$$

72. Therefore, a 20 per cent increase in fan speed results in a 44 per cent increase in static pressure *(sp)* and a 72 per cent increase in brake horsepower *(bhp)*. The engineer assigned to testing an exhaust ventilation system should be fully cognizant of this relationship.

Conclusions

73. The testing of an exhaust system is important. The data, however, will be of little use if a permanent record is not maintained. Therefore, some form for tabulating the data is required.

74. The most important measurements to be made are as follows:

a. Hood suction (static pressure).
b. Velocity in branch and main ducts and diameter of ducts.
c. Fan *sp* and *tp*.
d. Pressure drop across collector.
e. *cfm* of system.

75. Slight changes in velocity or volume are magnified in pressure readings since pressures vary as the square of velocity or volume. A drop of 20 to 30 per cent in static pressure, which corresponds to a reduction in volume or velocity of 10 to 15 per cent, will not markedly reduce the efficiency of the system.

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Assignment to An Empire

By BILL ANDREWS

June 1, 1956

EXSTEEL, for which I've now worked a year, is a part of the loose conglomeration of industrial operations known as Eastern Enterprises. That was made clear at the very start, for it was an Eastern representative that hired me in the first place, hired me and assigned me to Exsteel.

I had often wondered if there was in the Eastern setup a safety staff of any kind. The few executives of the central office I'd met could talk safety—they were general industrial executives, even more at home with problems of production, finance, marketing and personnel. Also, they probably made four times as much money as any safety man I ever met.

Eastern doesn't seem to encourage contacts between the staffs of its various corporations. Actually, the only direct experience I've had with Eastern men until last month was on three occasions; the interviews that lead to my employment; a family row in Exsteel which Eastern men came in to settle; and a discussion in March with a rather vague young man who wanted and got my views on the organization of a safety program in an unspecified location—but one of the requirements was that it be adapted to a completely illiterate working force without industrial experience.

I sounded off, uninhibited by any first-hand knowledge, letting the ideas roll out—basically a standard industrial plan, except that posters would have to be unsubtle and direct, and that teaching would have to depend upon trained native instructors and heavy use of visual aids specially designed for the group.

Three weeks ago, I got an inter-office memo telling me to report to the main office in Boston.

That office is a museum piece. The receptionist is a most gentlemanly colored man with the manner and something of the appearance of a butler. The clerks wear alpaca coats, and I wouldn't have been surprised to see them sitting at high desks making entries in the books with quill pens.

Also, the vice-president with whom I had an appointment had a fireplace with real logs in his office.

He wanted, he said, a full report on progress and present status of the safety work at Exsteel. I had the data and supplied it. He questioned me acutely, and then suggested dinner.

It was a very good dinner, with cocktails first in an oak-panelled bar, and then the meal in the vaulted dining hall of a swank club, ending with a good brandy in big glasses.

Afterward, he apologized for not being able to entertain me properly, and suggested that we go back to the office and finish our work.

The logs were burning in the fireplace, and there was a siphon and bottle on the table beside it. I decided that if a guy had to work overtime, this was doing it the plush way.

After doing the honors, he got down to cases. "How necessary is it that you stay on at Exsteel the next few months?" he asked.

I thought that one over for a minute before answering. In my mind there was a coin spinning in the air, as I tried to figure out whether the discreet thing was to make myself sound indispensible, thus protecting my job, or to make myself look available for something better if he wanted to offer it.

I couldn't work out the tactics in my mind, so I fell back on that last refuge of indecision, frankness.

"Neither of my assistants can handle the situation," I said. "One is a green boy, the other a plodding, old second-rater. There are no urgent crises, but we are moving ahead fairly aggressively on three aspects of the safety prob-

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SAFETY OFF THE JOB

Suggestions for company and community programs

By Gordon T. O'Neill
NSC Staff Representative, OTJ Safety Committee

Quarterly Report

The chart below is a report of the off-the-job accident information reported to the Off-The-Job Safety Committee of the Industrial Conference. It includes reports from 66 companies having more than 150 plant locations. Comparison of the quarterly on- and off-the-job experience of Group I shows a ratio of more than five off-the-job injuries to one work injury.

The continuing increase in off-the-job accident reporting is developing increasingly valuable information about the off-the-job problem and about non-fatal injuries. However we need a great deal more reporting before we will be able to develop information as to possible geographic and community trends. The Committee will furnish reporting forms to anyone desiring to report.

Home Safety Programs in Industry

Single copies of a reprint from the 1955 Home Safety Inventory are available on request. The reprint consists of a selection of 28 industrial programs which included home safety as a part of off-the-job safety. These programs illustrate various types of approach and emphasis such as community activities, contests, family participation, and special seasonal slants.

Operation Safety

The "Operation Safety" kit for traffic programs is now being issued quarterly. Each kit contains a program planning guide, fact sheets, pattern news releases, radio scripts and spots, speaker aids, background information, sample leaflets, miniature reproductions of suitable posters available, and other items selected to promote the phases of traffic safety emphasized in the particular kit. The kits are designed for use in continuing state and local safety education programs and are readily applicable to industrial off-the-job programs.

The summer kit, for June, July and August, emphasizes "Slow Down And Live," with the respective monthly themes, "Speed Control," "Vacation Driving" and "Share The Road." For further

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OFF-THE-JOB ACCIDENT EXPERIENCE, FIRST QUARTER, 1956

	Group I				Group II	
NO. EMPLOYEES	March 94,961		Quarter 227,130		March 85,342	Quarter 270,542
	No.	Days Lost	No.	Days Lost	No.	No.
TRANSPORTATION	66 (1)	1044	159 (5)	2482	48 (2)	129 (3)
Auto-Truck	58	927	148 (4)	2279	48 (2)	126 (3)
Bicycle	--	31	---	31	--	---
Motorcycle	3	14	4	15	--	1
Boats	1	2	1	2	--	---
Pedestrian	2 (1)	39	4 (1)	124	--	---
Other	2	31	2	31	--	2
HOME	106	1178	254	3035	53	175 (1)
Firearms	---	----	1	26	--	---
Mach'ry & Tools	5	44	21	198	4	14
Fire, Explosion	1	38	6	104	--	3
Toxic Material	1	5	2	8	1	2
Fall, Slip	59	755	127	1791	22	87
Struck by Obj't	8	72	26	201	8	22
Sharp Object	12	108	23	200	5	12
Improper Lifting	10	92	30	362	8	22 (1)
Hot Object	2	7	6	53	4	7
Other	---	----	1	8	1	6
PUBLIC	50	759	130	1571	34 (1)	112 (1)
Firearms	2	16	5	36	1 (1)	3 (1)
Sports	12	175	21	219	8	39
Fight, Assault	7	120	20	224	3	11
Fall, Slip	21	345	64	895	16	42
Struck by Obj't	3	69	6	102	2	7
Improper Lifting	--	----	1	5	2	2
Other	5	34	10	74	2	3
TOTALS	222 (1)	2981	543 (5)	7088	135 (3)	416 (5)
WORK INJURIES	52	1943	106 (2)	4147	2248 TOTAL DAYS LOST	7077 TOTAL DAYS LOST

FREQUENCY RATE 1.92 injuries /1000 employees DAYS LOST RATE 28.47 days /1000 employees
FATAL INJURY RATE 0.02 fatalities /1000 employees

Note: Figures in parentheses are the number of fatalities included in adjacent figures.

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WIRE FROM WASHINGTON

By Harry N. Rosenfield
Washington Counsel, National Safety Council

THE CONGRESS and the Executive Departments of government have been deeply involved in various safety and safety-related matters.

Highways. One of the major controversies in the current session of the Congress concerns the nature and scope of a proposed highway construction program. However, there is no controversy over the safety aspects of the highway program.

The House passed H.R. 10660, providing for $51½ billion dollar program, the largest road-building program in American history; financing proposals involved increased highway-user taxes.

During the course of the debate, recurrent reference was made to the safety aspects of highway construction. The National Safety Council's estimate of the costs of highway accidents was quoted. One member of Congress said: "We are destroying more property in value than we are spending upon the roads of the United States today."

Another Congressman stated that expert opinion indicated that many accidents would be avoided with multi-lane roads and wider lanes. Further reference to the testimony of safety experts appeared in Congressional debate when one Congressman said "that if the highways proposed in this bill were in use today, at least 1 out of every 10 highway deaths and injuries would be prevented."

Hearings were held in the Senate on S. 313 which would establish a system of chemical tests for intoxication of persons tried in the District of Columbia for driving offenses.

The Bureau of Public Roads announced that the average speed of motor vehicles on main rural highways, where drivers were free to choose their own speed, set an all-time record in 1955 of 50.7 miles per hour for all vehicles, an increase of 0.7 miles per hour over 1954. Average speeds for passenger cars were 52.1, for trucks 45.8 and for buses 52.6 miles per hour.

The Interstate Commerce Commission released its report on the number of accidents in 1955 resulting in death, injury or damage of $100 or more, and involving over-the-road vehicles of owners of certificates or permits from the ICC. The total for buses and trucks shows 31,935 accidents in 1955 as compared with 27,646 in 1954, an increase off 16 per cent. Fatal accidents increased 25 per cent from 1,095 to 1,373, whereas injury accidents increased from 9,832 to 11,914 an increase of 14 per cent. Property damages increased 18 per cent, from $29,892,830 to $35,416,030.

Industrial Safety. The Department of Labor estimated that the number of days lost in 1955 as a result of work injuries for all industries, was 39,000,000. This figure was 4 per cent above that for 1954, but well below the level of any other years since 1949.

A House Public Works subcommittee approved H.R. 9540, to continue and strengthen the Water Pollution Control Act which will expire the end of June 1956. The bill would authorize grants of $5 million to states for technical assistance in initiating control programs, and would provide for some $50 million annually for 10 years as grants to states and municipalities for the construction of sewage treatment plants.

Marine Safety. Considerable legislative activity has taken place in the field of marine safety. A series of bills originating with the Treasury Department are progressing toward enactment. The Senate has passed and the House committee favorably reported on the following bills: S. 460, to require life preservers for river steamers, including river vessels now exempt from such requirement; S. 743, which would authorize inspection of the hulls and boilers of cargo vessels every two years instead of the present requirement of annually; S. 1378, which would clarify the authority to require the establishment, maintenance and operation of aids to navigation in fixed structures in our navigable waters, by eliminating overlapping jurisdiction between the Coast Guard and the Corps of Army Engineers; and S. 1791, which would require lights to be carried on motorboats under 65 feet in length.

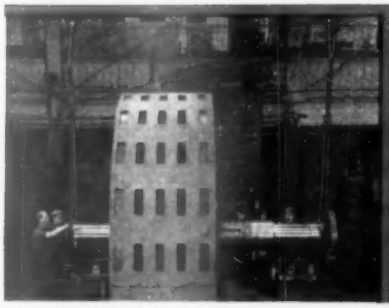
H.R. 7952, to require inspection and certification of certain mechnically propelled passenger vessels, was passed by the House, and favorably reported by the Senate Committee which also reported S. 3072 in a form amended to conform to H.R. 7952.

H.R. 4090, providing for the installation of automatic radio telegraph call selectors on United States cargo ships carrying less than two radio operators, was reported favorably in the House.

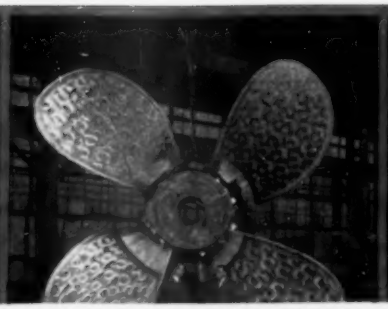
Government Agencies. S. 3582 was introduced by three Senators, as a substitute for the earlier S. 1309 (See WIRE, May 1955) to amend the Federal Employees Compensation Act by requiring Federal agencies to reimburse the Compensation Fund for payments to injured employees of such agencies. The bill would apply to all government agencies and would include military reservists.

The purpose of this bill, which follows the President's recommendation of the 1955 Budget

—*To page 128*



Two ATLAS Type 1, 8-part Round-Braided Slings handling generator unit.



ATLAS Type 1, 8-part Round-Braided Sling used in Figure 8 hitch for handling ship propeller 22 ft. in diameter and weighing 71,500 lbs.

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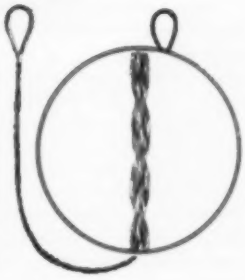

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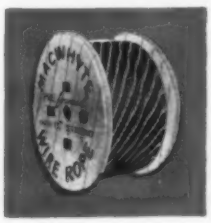

THE SAFETY LIBRARY

Books, pamphlets and periodicals of interest to safety men

Compiled by Ruth Parks, Librarian, NSC

Testing Materials

American Society for Testing Materials, Book of Standards, 7 Parts.

Part 1. Ferrous Metals, 1,834 p., $13.50.

Part 2. Non-Ferrous Metals, 1,516 p., $11.

Part 3. Cement, Concrete, Ceramics, Thermal Insulation, Road Materials, Waterproofing and Soils, 2,062 p., $13.50.

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Part 6. Electrical Insulation, Electronic Materials, Plastics and Rubber, 1,776 p., $13.

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Published by the ASTM, 1916 Race St., Philadelphia 3.

ASTM standards are very widely known and used because they are based on the work of standing committees made up of approximately equal numbers of people concerned with producing and consuming the materials discussed and of representatives of the general public. This type of representation assures the development of standards which are based on intrinsic merit and at the same time are commercially practical and which meet a commercial need.

Fifty years experience of the ASTM organization enables them to maintain a thoroughly competent and widely representative membership on their committees, so that, they are always authoritative. The present triennial revision contains 355 entirely new standards and an additional 803 which have been completely revised since the previous edition. Each part is individually indexed.

Excavation Methods

Modern Techniques of Excavation, by Herbert L. Nichols, Jr. Published by North Castle Books, Greenwich, Conn., 1956. 608 pages, $9.00.

OVER THE YEARS many books have covered all of the various operations described in these pages. However, here is a book that gets down to the basic details and description of sound operational procedures in land clearing, soil and mud, ditching, dewatering, blasting and digging underground, as well as an excellent chapter on "Hints on Maintenance."

The author has done an exceptionally fine job of condensing material from his original works in the book, *Moving the Earth*, in which he gave detailed answers to problems constantly facing engineers, superintendents, foremen, and operators alike.

This could prove to be one of the best sources of ready information in the safety engineer's library. The text is concise, the pictures and art work all fit together to bring out a lot of tricks of the trade and how to do them in a safe manner.

WENDELL BLAIR

Underwater Sports

The Master Diver and Underwater Sportsman, by Captain T. A. Hampton; Adlard Coles Limited, Southampton, in association with George G. Harrap & Company Limited, London, and John DeGraff, Inc., New York, 1955. 208 pages. $5.00.

THIS BOOK is a comprehensive, well illustrated treatment of diving equipment and its use for both recreational and commercial purposes. It deals generally with physiological factors involved in diving, and specifically with snorkels, compressed air breathing apparatus (aqualung), oxygen and regenerative apparatus, and with standard diving gear. Both shallow and deep diving, as well as diving from the shore, are covered.

The book describes the underwater world and its denizens, and treats of underwater work such as construction, demolition, cutting, welding, and blasting. An excellent chapter on "Seamanship for Divers" is included. Appendices include decompression tables and diving data. An index is provided.

The coverage of safety in diving gives evidence of the author's knowledge of the subject. The need for caution and thorough training in the use of the equipment is emphasized.

American experts on diving safety insist on the necessity of the "buddy system" (never diving without a companion) in sport operations. On this score, Captain Hampton says, "The underwater sportsman is usually advised to dive with a companion also using apparatus, or at least with a breathing tube outfit. It is the author's firm conviction that a companion in a boat, however small, is of much more help to a diver in trouble, in nine cases out of 10, than a man in the water, but have both, if possible."

There does not appear to be any discussion of danger of attack by sharks, barracuda, or other sea creatures, although the author does say that sharks are found in British waters. Cousteau, co-inventor of the aqualung, deals at length in his numerous writings with this hazard, which in his experience turns out to be less of a hazard than might be supposed. Still, it is a question that necessarily occurs to the novice salt-water diver, and it seems strange that Captain Hampton ignores it.

A coined word coming into circulation in America to designate all apparatus of the aqualung type and its relatives is SCUBA, the initials of Self-Contained Underwater Breathing Apparatus. This usage evidently has not spread to the British Isles; it does not appear in this book.

The author is identified only as Captain T. A. Hampton. At least for American readership, it would seem worthwhile, somewhere in the opening pages, to state his background and qualifications, which we feel must be considerable.

The reader will find this to be an interesting and valuable work, whether he is interested in diving for commercial purposes or for fun.

L. W. DUTTON

Supervision in the Chemical Industry

Chemical Safety Supervision, published by Reinhold Publishing Corporation. 221 pages, 1956, $4.50.

THIS IS the first American book on chemical plant safety to be planned and written by a single author. The only previous effort was the one published by a committee of the Manufacturing Chemists Association.

The author has had wide experience in safety supervision as an insurance company safety engineer, as safety engineer for several industries of other types, and most recently as manager of the safety

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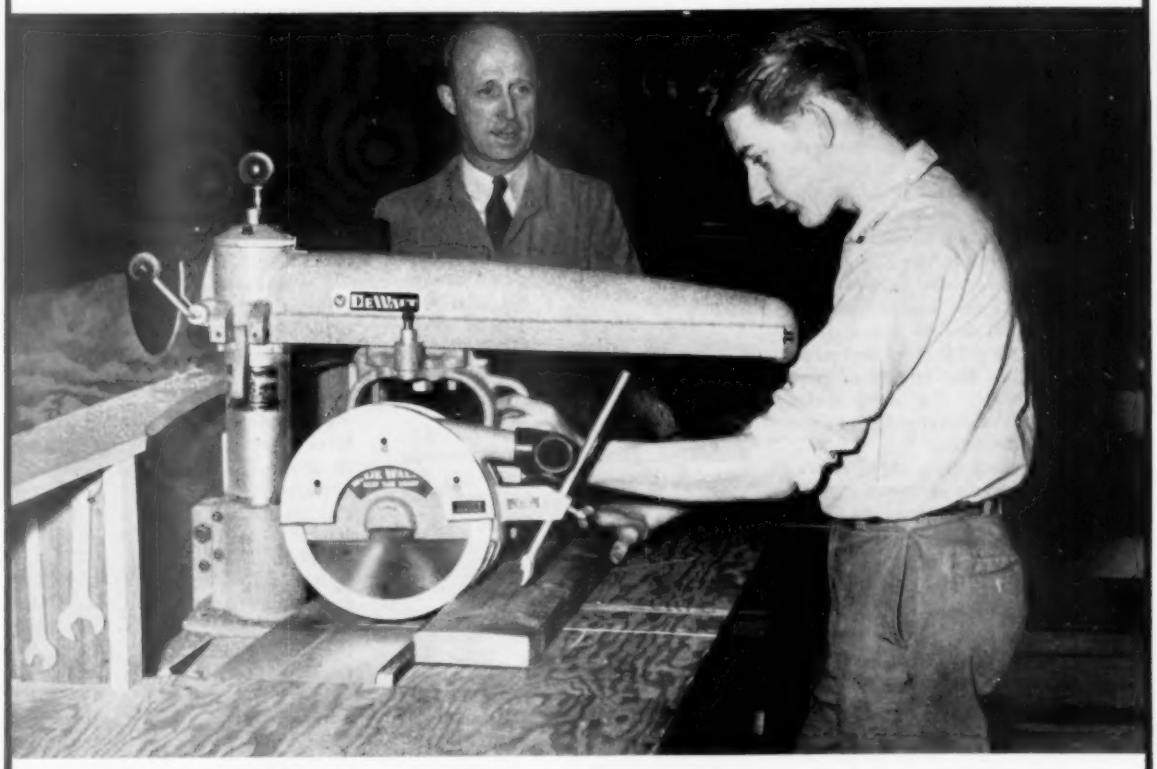

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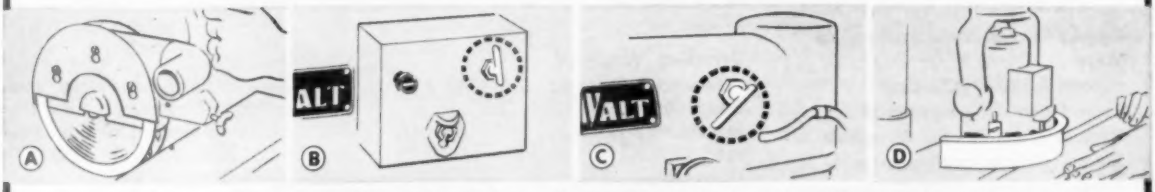

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department of the General Chemical Division of the Allied Chemical and Dye Corporation. He is eminently well fitted to produce such a book and this volume in general is very competently done. It shows an appreciation of both the theoretical and the practical aspects of the job.

The general style and composition show the influence of the modern education psychologists which, to this reviewer's taste, gives it the flavor very much of a high school text book and could have been dispensed with for adults. The excellence of the contents, however, is such as to make one forgive the deficiency of style and to some other taste this style might be desirable. It certainly has the effects of pinpointing precisely the item under discussion and of expressing it in the simplest possible terms.

A listing of chapter titles serves the double purpose of indicating the quite comprehensive coverage of the field, and of giving an idea of the style to be expected in the body:

Do You Have to Be a Chemist?
How to Investigate a Chemical Accident
What to Do After the Accident
Teaching the Doctor Chemistry
Special First Aid for Chemical Accidents
What You Should Know About Occupational Disease
Should Your Men Get Special Physicals?
An Eye Safety Program That Works
Demonstrations You Can Perform
Water
Protect the Man—Clothing
Protect the Man—Equipment
Receiving and Storing Chemicals
Safety in Chemical Reactions
Breaking Lines—a Serious Problem
Tank Accidents
Working Tanks Safely
Safe Sampling, Gauging, Controls and Air Testing
What Labels Can Teach You
Tank Car Safety
Your Part In Reviewing New Plans
Your Responsibility to the Public
Disaster Planning
More About Psychology
Laboratory Safety—a Check List
Safety Helps from Your Suppliers
Help from the Insurance Company
Chemical Hazards — an Inspection Check List
The Future of Chemical Safety
Reference Material for Chemical Safety
Index

The book is illustrated throughout by very simple pen and ink sketches which are apt and to the point and by special case histories which illustrate the reasons for the general principles. This should be useful for the foreman in a chemical plant and about equally so for the safety engineer.

F. A. Van Atta

BOOKS AND PAMPHLETS

Accident Pronesses

Mathematical, Psychological and Engineering Aspects of Accident Phenomena. Herbert A. Jacobs and others. Reprinted from *Transactions of the New York Academy of Sciences,* Ser. II, vol. 8, No. 3, p. 261-277, Jan. 1956. Dunlop and Associates, 429 Atlantic St., Stamford, Conn. 1956.

Aeronautics

Crew Survival in the Jet Age. Robert J. Heymaus and Robert M. Stanley, Society of Automotive Engineers, 29 West 39th St., New York 18. 1956. 10p. *Reprint 750.* 35c to members.

Chemicals

Propylene. Manufacturing Chemists' Association, 1625 Eye St., N. W., Washington 6, D. C. 1956. 14p. *Chemical Safety Data Sheet SD-59.* Price 30c.

Food Industry

Work Injuries in the Canning and Preserving Industry. U. S. Bureau of Labor Statistics, Washington 25, D.C. 1956. 20p. *B.L.S. Reports No. 101.*

Grinding Wheels

Mounted Wheels. Safe and Efficient Operation, Maximum Operating Speeds. Grinding Wheel Institute, 2130 Keith Bldg., Cleveland 15, Ohio. 1956. Revised. 34p.

Mines

Design of Bolting Systems to Reinforce Bedded Mine Roof. U. S. Bureau of Mines. 1956, 16 p. *Report of Investigation 5155.* Free. The Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa.

Drill-Dust Collectors Approved by the Bureau of Mines as of January 31, 1956. U. S. Bureau of Mines. 1956, 25p. *Information Circular 7741.* Free. The Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa.

Falls of Roof—The No. 1 Killer at Bituminous Coal Mines, 1955. U. S. Bureau of Mines, Washington 25, D. C. 1956, 9 p. *HSS No. 445.*

Permissible Mining-Loading Equipment. U. S. Bureau of Mines. 1956, 33p. *Information Circular 7736.* Free. The Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa.

Principles of Reinforcing Bedded Mine Roof with Bolts. U. S. Bureau of Mines. 1956, 25p. *Report of Investigation 5156.* Free. The Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa.

Safety in Pneumatic Drilling and Related Blasting Operations. U. S. Bureau of Mines. 1956, 23p. *Information Circular 7742.* Free. The Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa.

Theory of Model Testing as Applied to Roof Bolting. U. S. Bureau of Mines. 1956, 11p. *Report of Investigations 5154.* Free. The Bureau, Publications Distribution Section, 4800 Forbes St., Pittsburgh 13, Pa.

Quarries

American Standard Safety Procedures for Quarries. American Standards Association, 70 East Forty-fifth St., New York 17. 1956. 37p. *M28.1-1955.* Price $1.50.

"The test was a failure."

MAGAZINE ARTICLES

Atomic Power

"Protection Against Atomic Hazards." Arthur W. Murphy and others, *Best's Insurance News — Fire and Casualty.* Apr. 1956, p. 28-31+.

Blasting

"New Do's and Don'ts on Blasting Safety." *Roads and Streets.* Apr. 1956, p. 64+.

Chemicals

"Chronic Oral Toxicity of 2-Ethylhexyl Phthalate in Rats and Dogs." Robert H. Harris, *AMA Archives of Industrial Health.* Mar. 1956, p. 259-264.

"Chronic Toxicity of Aniline Vapor (5ppm) by Inhalatives." Fred W. Oberst and others, *AMA Ar-*

—To page 147

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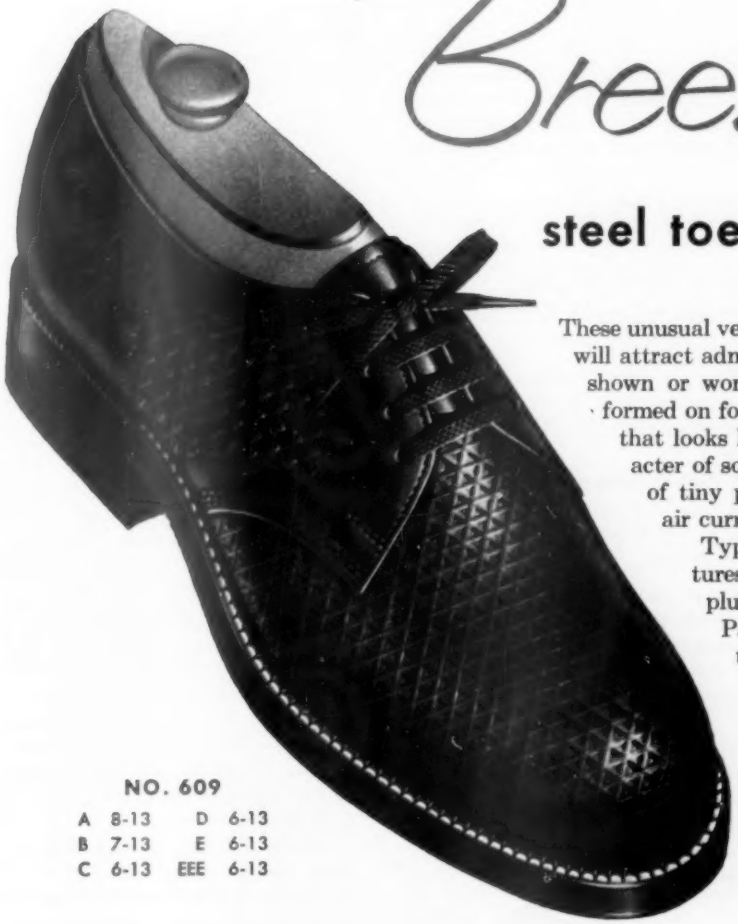

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Typical Iron Age top quality features include long wearing "Leatherplus" outsoles, leather toe linings, Pacifate vamp linings—plus custom craftsmanship.

The "dog days" are almost here. Order your stock now to satisfy employee needs and gratify their foot comfort all summer long.

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B	7-13	E	6-13
C	6-13	EEE	6-13

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Morton's 500-tablet Golden Dispenser is ruggedly built and easy to install. It won't rust and has a tight fitting dust-proof cover.

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Morton's Functional Plastic Dispenser is an inexpensive, non-corrosive, permanent type tablet dispenser that holds 1,000 tablets, delivers them one at a time without waste.

Morton Yellow Impregnated Salt Tablets are made by a special patented process that controls the rate of dissolving . . . makes it possible for people to get their required amount of salt without the feeling of nausea which might occasionally accompany the taking of plain salt tablets.

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Announce World Conference On Noise Control

More than 500 of the world's leading authorities on noise control will take part in the second International Congress on Acoustics in Cambridge, Mass., June 17-23.

Harvard University and the Massachusetts Institute of Technology will be joint hosts for the international meeting. Sessions will be held in conjunction with the 51st meeting of the Acoustical Society of America.

The combination will make this the largest technical meeting on acoustics in history. Over 100 technical contributions have been received from abroad; they will be presented by scientists from Argentina, Belgium, Canada, Denmark, Great Britain, France, Germany, Hungary, India, Italy, Japan, Netherlands, Norway, Soviet Union, Saar, Sweden, and Turkey.

The international meeting is sponsored by the International Commission on Acoustics. The first such Congress was held in Delft, Netherlands, in 1953.

The technical program for the Congress will be organized around three major symposia:

Bioacoustics and noise control—human responses to sound (including hearing, psychological response, and biological effects) and noise control methods based on these responses.

Architectural and musical acoustics—the production of music and speech sounds and the design of enclosures for good hearing conditions.

Physical acoustics and sonics—acoustical studies of matter, propagation of sound, and application of acoustical techniques to technical problems.

There will be special demonstrations of speech analysis and synthesis. Special exhibits will be prepared for the Congress by many scientific, technical, and manufacturing concerns throughout the world.

The Congress will open with an international reception on Sunday evening, June 17, and an international convocation Monday morning. Technical sessions will continue all week with a closing banquet on Friday evening.

AROUND THE COMPASS

ACTIVITIES • PROGRAMS • EVENTS

Compiled by Field Service Department, NSC

Supervisors' Correspondence Course

A supervisors' safety correspondence course has been developed by the Industrial Association of Iowa in cooperation with the Extension Engineering Service of Iowa State College, Ames, Iowa.

The course is designed for those businesses in Iowa which do not have full-time safety specialists—by and large, the small firms. It also serves as a supplementary course for larger firms which wish to pass additional safety information to their supervisors. Enrollment is limited to 200 students. Cost of the course includes text material, grading and examination papers, correspondence between the college and students, and completion certificates.

Kansas City Award Dinner

The well-attended Annual Industrial and Fleet Contest Award Dinner and Dinner of Champions sponsored by the Kansas City Safety Council, Kansas City, Mo., was held April 10. Presentation of industrial awards to winners of the 16 industrial divisions was made by Richard J. Stuck, personnel and safety director, Witte Engine Works, and vice president in charge of industrial safety, Kansas City Safety Council. Two companies receiving Special Achievement awards were Westinghouse Electric Corp. and Sheffield Steel Co. Seventeen companies completed the year without a chargeable accident.

Presentation of Fleet awards and Champion Driver Recognition Cards was made by Stanford S. Block, president, Merchants Delivery Co., and vice president in charge of commercial vehicle division, Kansas City Safety Council. C. Y. Thomas, vice president, Spencer Chemical Co., and president of the Kansas City Safety Council, presided. Principal address was delivered by Paul Jones, director of public information, NSC, and entertainment was furnished by the Kansas City, Mo., Police Department force directed by Dr. W. Everett Hendricks, associated professor, Department of Music, Kansas City University.

Michigan Conference Record

More than 4,000 safety leaders from civic, business, industry, home, school and rural groups met in Detroit for the Michigan Safety Conference, April 24-26. The Conference was termed the largest in the 26-year history of the organization.

Robert T. Ross, manager of Employees Services, Ford Motor Co., presided. Mr. Ross is also president of the Greater Detroit Safety Council and a vice-president of the Greater Detroit Safety Council and a vice-president and director of the National Safety Council. Among the principal speakers were Miss Marion E. Martin, Commissioner of the Maine Department of Labor and Industry, and Federal Defense Administrator Val Peterson. The program also included speeches and panel discussions on driver education, farm and home accident prevention, traffic control, fire prevention, and industrial safety.

New Bern Safety Check Highlighted

Once again New Bern, N. C., worked overtime to "put on a real show this May." The 1956 Safety Check program was aimed at the entire county and ran May 14-19 with a special event each day drawing attention to the 13 strategically located safety check lanes. Special events included a mammoth kick-off parade, a speech by North Carolina's Governor Hodges, an Industrial Day, a water ski show, Farmers' Day, Marine Day, and an appreciation banquet for the more than 500 workers who took part.

Industrial Safety School

The Central Ohio Chapter, ASSE, and Safety Council of the Columbus (Ohio) Chamber of Commerce recently completed their Second Annual Industrial Safety School. Seven two-hour classroom sessions were scheduled beginning March 5, followed by an awards banquet where graduation certificates were presented.

Topics covered in the sessions included Ohio Codes, causes of industrial injuries, job safety analysis, safety training and education, standards, records, first aid, fire prevention, workmen's compensation, setting up a plant organization, and physical examinations.

The course was primarily designed to fill a void in industrial safety education for those who have the responsibility but little or no formal training in the subject.

Indiana Conference

Richard E. Whinrey, general manager, Link-Belt Co., and Carl P. Quanz, vice-president and plant manager, Bridgeport Brass Co., served as co-chairman of the Ninth Central Indiana Safety Conference and Exhibit held March 28-29 at the Claypool Hotel, Indianapolis. The Conference was an outstanding success and good programs, mostly on the industrial side, were enjoyed by large audiences. William R. Kelly, manager, Sales Promotion, Sinclair Refining Co., New York,

Prevent Accidents

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Salt Deficiency in Hot Weather

Salt deficiency can cause heat fatigue — the tired, listless feeling that leads to accidents. In extreme cases, it can result in heat exhaustion.

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The Original and Highest Quality
IMPREGNATED SALT TABLETS
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Why Take Chances?
MAKE SURE YOU GET GENUINE IMPREGNATED TABLETS
To be sure, you must either conduct elaborate laboratory tests — or buy from a manufacturer with proven experience, "know-how," elaborate specialized equipment, and laboratory techniques for quality control.
"Pep-Up" impregnated salt tablets have been manufactured for the past 8 years exclusively by USSSCO, under patent No. 2,478,182 — the original U. S. patent granted for impregnating salt crystals. "Pep-Up" tablets meet all Federal specifications.
Also packed in: 1,500 Tablet Bulk Package
500 or 1000 Tablet Dispenser
"Perma-San" Stainless Steel Outdoor Holder
10 Tablet "Vest Pocket" Packet
For Extra Convenience packed in rugged expendable dispensers — sanitary, economical, convenient. When empty, throw away, and hang up new one
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IMPREGNATED SALT TABLETS
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In Canada: Parmelee, Ltd., Toronto & Montreal

N. Y., was principal speaker at the Conference banquet.

Craft Unions Participate

Local craft unions cooperated recently with the Newburgh Safety Council, Newburgh, N. Y., in mailing safety questionnaires to hundreds of union members. The mailing piece on "Know Your Traffic Laws and Obey Them" consisted of a list of true and false questions concerning traffic laws. Recipients were asked to check the answers, which were published in the local newspaper. Other groups such as the American Legion, Moose, and Elks also participated in the project.

N. W. Florida Council Formed

W. A. Leonard, Standard Oil Co., Pensacola, Fla., has been named to head the newly organized Northwest Florida Safety Council.

The new Council will employ a full-time, paid manager and will set up a first year budget of $10,000-12,000. Purposes of the new group are (1) to promote safety in all fields of activity; (2) to aid public authorities in prevention of accidents on streets and highways and other public places; (3) to conduct a program of public education, and (4) to make available educational and specialized services to members and other organizations in establishing or maintaining safety programs in their individual spheres of activity.

A tentative plan has been adopted of having business and industry pay into the organization an amount equal to 50 cents per employee. Two firms, Chemstrand Chemical Co. and St. Regis Paper Co., have already planned payments that will total about $4,000. The Chamber of Commerce Building is being considered as a headquarters site.

James E. Civils, district representative, NSC, told the group at a recent meeting that action must be focused on action by those responsible for accident prevention. "Essential elements," he said, "are public officials who want a more effective safety program and recognize the need for public support; key groups of individuals to take community leadership."

Bosses' Night

More than 400 persons attended "Bosses' Night" April 20, the final program meeting of the 1954-55 year for the Twin City Industrial Safety Council, Nennah-Menasha, Wis. Dr. Neal Bowman, National Association of Manufacturers, was the principal speaker. Sen. Raymond Bice, LaCrosse, was master of ceremonies.

Dayton Safety Forum

Mrs. Ivy Baker Priest, Treasurer of the United States, addressed the fourth and final Industrial Safety Forum of the current series, April 16, at the National Cash Register Auditorium, Dayton, Ohio. Mrs. Priest has had a long and continuing interest in safety. She served as vice-president of the state safety organization in her native state of Utah, and has maintained her safety interest on a national level through her participation in the National Safety Congresses.

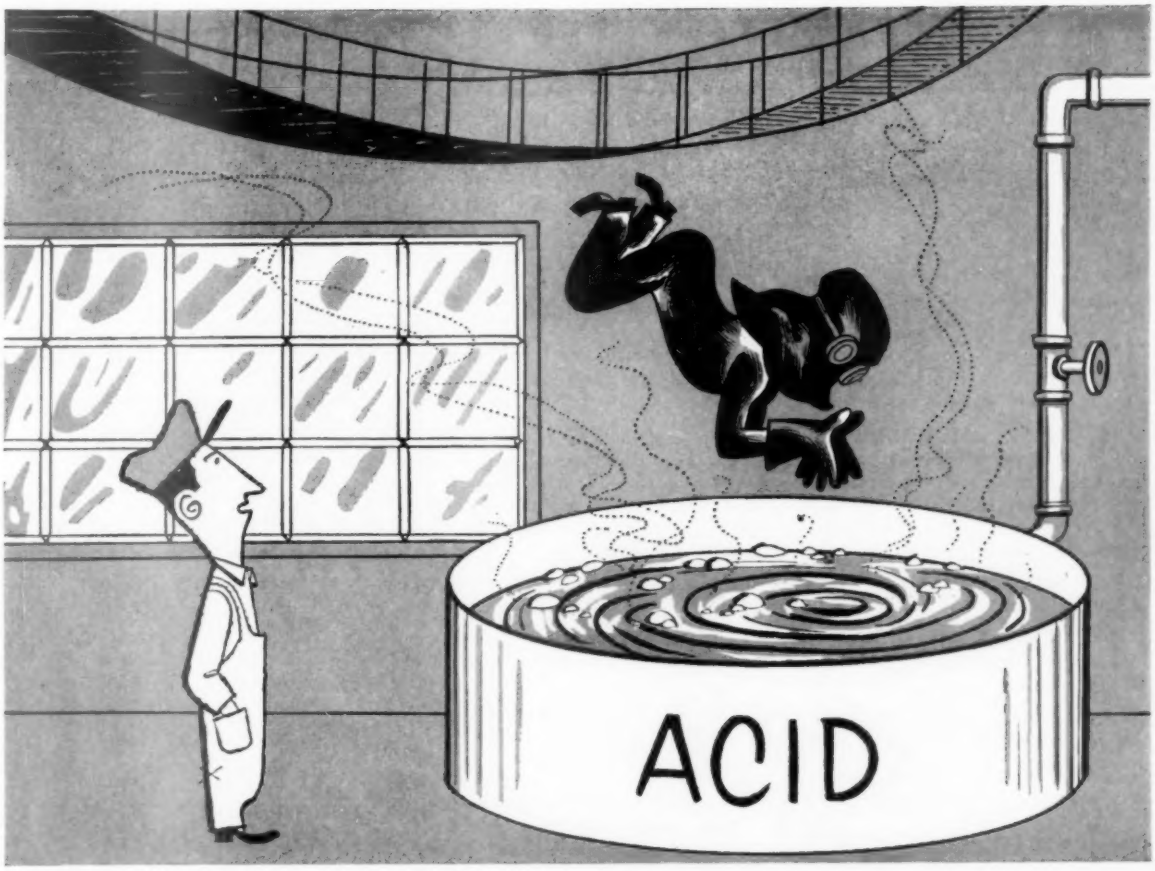
Governor Honored for Service to Safety

FOR YEARS Governor Arthur B. Langlie has been presenting awards to firms with outstanding safety records and to individuals who have done yeoman service to the accident prevention movement at his annual Washington Governor's Safety Conference.

The Portland Chapter, American Society of Safety Engineers reversed the procedure somewhat, when at a luncheon meeting at the Seventh Annual Governor's Safety Conference, E. A. Roles, Longview, Wash., chairman of the Portland Chapter, presented the Governor with a gavel made from a piece of yacca wood brought to the Columbia River country as ballast more than sixty years ago. The gavel signified the appreciation of the American Society of Safety Engineers for the leadership Governor Langlie has given to the safety movement in the United States of America.

A big man is not one who makes no mistakes, but one who is bigger than any mistake he makes.

History does not long entrust the care of freedom to the weak or the timid.—*President Eisenhower.*



"Easy, Sturdley— **NEOPRENE** protective clothing isn't quite that good"

Maybe Sturdley *is* a bit overconfident about his neoprene protective clothing—but just a bit. Protective clothing coated with neoprene resists attack from most chemicals, and has kept many a man safe from fumes and accidental splashes. Men who work with corrosive liquids appreciate the complete protection this heavy-duty clothing gives them . . . management welcomes the man-hours saved.

Du Pont neoprene keeps its flexibility and resilience throughout a long service life. Flexing, sunlight, weathering and heat have little effect on neoprene. Even in the toughest service—indoors or out—neoprene-coated protective clothing retains its effectiveness.

When you specify rubber goods made with NEOPRENE . . . you get *all* these safety features:

- **RESISTANCE TO OIL, GREASE AND MOST CHEMICALS**—neoprene protects against deteriorating agents.
- **FLAME RETARDANCE** — neoprene won't support combustion.
- **ABRASION RESISTANCE**—neoprene is strong and tough!
- **HEAT RESISTANCE**—neoprene won't soften.
- **RESISTANCE TO SUNLIGHT, WEATHERING, AND OXIDATION** — neoprene won't soften or crack.

Your rubber-goods supplier is the man to see about long-lasting products of neoprene. Be sure to check him soon.

FREE! THE NEOPRENE NOTEBOOK

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BETTER THINGS FOR BETTER LIVING . . . *THROUGH CHEMISTRY*

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FOR DISTINGUISHED SERVICE

National Safety Council awards for outstanding records

THREE TYPES of awards are given by the National Safety Council to industrial units in recognition of outstanding performance in accident prevention:

1. The AWARD OF HONOR is available to units whose records, though not perfect, meet rigorous standards of excellence. These standards take into account the previous experience of the unit as well as the experience of the industry in which it operates. A unit must qualify on both frequency rate and severity rate. The Award of Honor is available also to units which complete 3,000,000 man-hours without a disabling injury.

2. THE AWARD OF MERIT has similar, but less exacting requirements. Minimum number of injury-free man-hours needed to qualify is 1,000,000.

3. THE CERTIFICATE OF COMMENDATION is available only for injury-free records covering a period of one or more full calendar years and totaling 200,000 to 1,000,000 man-hours.

Details of eligibility requirements may be obtained by writing to the Statistics Division, National Safety Council.

AWARDS OF HONOR

ACF Industries, Inc., St. Charles, Mo.

Aluminum Co. of America, Three awards: Cleveland Foundry; Magnesium Foundry, Buffalo, N. Y.; New Kensington (Pa.) Works.

Amalgamated Sugar Co., Twin Falls, Idaho.

American Optical Co., Southbridge, Mass.

American Sugar Refining Co., Philadelphia.

Argonne National Laboratory, Lemont, Ill.

Ballymena Woolen Mills, Baltimore.

Bridgeport Brass Co., Housatonic Plant.

Brown & Bigelow, St. Paul, Minn.

Buckeye Cotton Oil Div., Hollywood Mill, Cincinnati.

California & Hawaiian Sugar Refining Corp., Ltd., Crockett, Calif.

Canadian Exploration, Ltd., Salmo, B. C.

Canadian Malartic Gold Mines, Ltd., Malartic, Quebec.

Certain-Teed Products Corp., Kansas City, Mo.

Champion International Co., High Grade Paper, Lawrence, Mass.

Champion Paper and Fibre Co., Carolina Div., North Carolina.

Chicago, Burlington & Quincy Railroad Co., Communications Dept., Chicago.

Chicago Carton Co., Chicago, Ill.

Clark Equipment Co., Truck Div., Battle Creek, Mich.

Cleveland Electric Illuminating Co., Northern Ohio Area.

Container Corp. of America, Chicago.

Continental Foundry & Machine Co., Chicago Works.

Cotwool Mfg. Corp., Judson Mills, S. C.

Crown Zellerbach Corp., Bag Factory, Los Angeles.

Crucible Steel Co. of America, Midland (Pa.) Works.

Dan River Mills, Inc., Danville, Va.

Dow Corning Corp., Midland, Mich.

Dravo Corp., Machinery Div.

E. I. du Pont de Nemours & Co., Wilmington, Del.

East Bay Municipal Utility District, Oakland, Calif.

Ethyl Corp., Baton Rouge, La.

Fitchburg Paper Co., Fitchburg, Mass.

Ford Motor Co., Dearborn, Mich.

General Aniline Film Corp., Linden (N. J.) Plant.

General Dynamics Corp., Fort Worth.

General Electric Co., Three awards: Ballast Dept., Danville, Ill.; Time Switches & Meters, Somersworth, N. H.; Trumbull Lamp Works, Warren, Ohio.

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FOR THE SIXTH consecutive year the Award of Honor goes to the United States Air Force. Here Ned H. Dearborn, president, NSC, presents the award to Air Force Chief of Staff Gen. Nathan F. Twining. Looking on are (l. to r.) Lt. Gen. Emmett E. O'Donnell, Deputy Chief of Staff, Personnel, USAF, and Col. Will L. Tubbs, assistant for ground safety, USAF.

Protect your plant with the same Ansul extinguishers that guard this big steel mill

Well-planned safety and fire prevention programs are doing their share to protect lives, property and production schedules at the Great Lakes Corporation, Detroit, Mich., division of National Steel Corporation. Ansul fire extinguishers are playing a part in this successful program.

Your safety program deserves the best in fire protection. Remember, fire doesn't give you a second chance. Here are three big reasons why Ansul dry chemical extinguishers can take the worry out of your fire protection program and help you maintain a safety record to be proud of:

First. Ansul extinguishers are *dependable.* They are always ready for action, even under severe exposure conditions. Weather-tight construction assures this dependability. *Second.* Ansul extinguishers are *effective.* Patented nozzles deliver either a straight or fan stream, depending upon the hazard. This is an Ansul exclusive for more effective fire control. *Third.* Ansul extinguishers are backed by a *five-year warranty.* This is the best way we know of saying that Ansul extinguishers are the finest of their kind made anywhere. No other manufacturer offers this important warranty.

Get in touch with your local ANSUL MAN through the yellow pages of your phone directory, or write direct to ANSUL CHEMICAL COMPANY, DEPT. NS-6, MARINETTE, WISCONSIN.

ANSUL

Revolutionary

NEW HOOK DESIGN

...assures maximum safety and strength under the most severe conditions!

Avoid smashed fingers, broken hands and other serious and costly accidents with Taylor Chain's new Alloy Steel Tayco Hooks. Patented I-Beam type design provides a safe gripping channel for the hooker's hand . . . increases the strength and life of the hook immeasurably.

Large area above the eye further increases the hook's life. Oversized eye reduces joiner link wear. Drop-forged from Alloy Steel and heat-treated—Tayco Hooks have great resistance to shock, grain-growth and work-hardness at all temperatures. Available separately and as standard equipment on all Taylor Made Alloy Sling Chains.

SEE YOUR DISTRIBUTOR, OR SEND COUPON TODAY!

S. G. Taylor Chain Co., Hammond, Ind.; Pittsburgh, Pa.

TAYLOR MADE
A GREAT NAME IN
Chain SINCE 1873

S. G. Taylor Chain Co.
Dept. K Hammond, Indiana

Please rush Bulletin No. 90 giving all the facts and specifications on Tayco Hooks.

Name_____

Address_____

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For Distinguished Service

—From page 56

General Instrument Corp., Danielson, Conn.

General Motors Corp., Detroit.

P. H. Glatfelter Co., Spring Grove, Pa.

Goodyear Tire & Rubber Co., Six awards: Australia; Brazil; Engineering Div., Akron; Java-Indonesia; Mechanical Rubber Goods, Akron; Plant No. 1, Tires, Akron.

A. P. Green Fire Brick Co., Mexico, Mo.

Haynes Stellite Co., Main Plant, Kokomo, Ind.

Hollingsworth & Whitney, Div. of Scott Paper Co., Winslow.

Hughes Aircraft Co., Culver City, Calif.

Ingalls Shipbuilding Corp., Pascagoula, Miss.

International Harvester Co., Waukesha, Wis.

International Paper Co., Moss Point (Miss.) Mill.

I T E Circuit Breaker Co., Philadelphia.

Kaiser Aluminum & Chemical Corp., Two awards: Baton Rouge (La.) Works; Chalmette (La.) Works.

Kennecott Copper Corp., Ray (Ariz.) Mines Div.

Lago Oil & Transport Co., Ltd., Aruba (N. W. I.) Refinery.

R. G. LeTourneau, Inc., Longview, Texas.

Lily Tulip Cup Corp., Springfield, Mo.

Mengel Co., Furniture Div., Louisville.

Millville Mfg. Co., Millville, N. J.

The National Cash Register Co., Dayton, Ohio.

National Sugar Refining Co., Sugar Div., Pa.

New Jersey Zinc Co., Palmerton, Pa.

North American Aviation, Inc., Two awards: Columbus, Ohio; Downey Plant.

Norton Co., Grinding Machines, Mass.

Oliver Corp., Cleveland Plant.

Oswego Falls Corp., Sealright Div., Kansas City, Kan.

Pan-Am Southern Corp., Destrehan Refinery.

Philco Corp., Two awards: Government Ind. Div., Philadelphia; Plant No. 80, Watsontown, Pa.

Pickands Mather & Co., Two awards: Newport Mine, Ironwood, Mich.; Puritan Mining Co., Bessemer, Mich.

The Port of New York Authority, New York City.

The Procter & Gamble Co., Two awards: Entire company; Long Beach, Calif.

Radio Corp. of America, Camden (N. J.) Plant.

Ravenna Arsenal, Inc., Apco, Ohio.

Rohm Haas Co., Lennig Plant, Bridesburg.

Saco Lowell Shops, Biddeford, Maine.

St. Regis Paper Co., Two awards: Bag Plant, Pensacola, Fla.; Kalamazoo, Mich.

Sandria Corp., Albuquerque.

C. Schmidt & Sons, Inc., Philadelphia.

Scott Paper Co., Chester, Pa.

Sperry Corp., New Holland Machinery Div.

Stockham Valves & Fittings, Birmingham.

Swift & Co., Five awards: Los Angeles; Plankinton; So. St. Joseph; So. San Francisco; Watertown.

Tennessee Copper Co., Copperhill, Tenn.

Thompson Products, Inc., Conant Works, Detroit.

United States Coast Guard, Baltimore.

United States Rubber Co., Los Angeles Tire Plant.

United States Steel Products Div., Los Angeles.

Universal Winding Co., Providence, R. I.

Western Electric Co., Inc., Four awards: Denver Distributing House; Duluth Shops; Greenboro (N. C.) Shops; Hawthorne Works, Chicago.

Westinghouse Electric Corp., Four awards: Buffalo (N.Y.) Div.; Electronic Div., Baltimore Steam Div., Essington, Pa.; Sturtevant Div., Boston.

AWARDS OF MERIT

American Optical Co., Brattleboro, Vt.

Air Reduction Co., Inc., New York City.

Allegheny Ludlum Steel Corp., Breckenridge (Pa.) Works.

Allied Chemical & Dye Corp., Detroit Plant.

Allis Chalmers Mfg. Co., Two awards: Gadsden Works, Ala.; Earthmoving Machinery, Cedar Rapids, Iowa.

Allied Kid Co., New Castle Specialty, Wilmington, Del.

Aluminum Co. of America, Five awards: Aluminum Ore Co., Mobile; Davenport, Iowa; Fabrication of Aluminum, Cressona, Pa.; Sheet Aluminum, Alcoa, Tenn.; Wenatchee (Wash.) Works.

—To page 153

BUFFALO

carbon dioxide

EXTINGUISHERS

with squeeze grip valve

INSURE INSTANT, DEPENDABLE PROTECTION!

Reach for a Buffalo Carbon Dioxide extinguisher, you're sure of instant, sure-fire action! Each extinguisher is designed to give rugged, dependable service and maximum protection against *all* hazardous flammable liquid and electrical fires. Operation is extremely simple . . . just point the horn as close to the base of the flames as possible, pull the lock pin and squeeze . . . instantly a clean, odorless, inert carbon dioxide gas is expelled under pressure and snuffs out the flames in seconds!

Buffalo Carbon Dioxide extinguishers are available in 2½, 5, 10, 15, 20, 50, 75 & 100 lb. models, and bear Underwriters' Laboratories, Factory Mutual and Coast Guard approval.

Buffalo squeeze grip valve with open lock, standard on all hand portable carbon dioxide models.

Buffalo's special squeeze grip valve insures instant operation, no lost time or carbon dioxide. They are positively leak-proof and are equipped with a safety disc and recoil preventors for added safety.

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DAYTON 1, OHIO
ESTABLISHED 1895

ORDER BUFFALO FIRE PROTECTION FROM YOUR INDUSTRIAL DISTRIBUTOR TODAY!
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BUFFALO better-built

the right extinguisher for every fire hazard . . . plus a complete line of brass goods and hose

ACCIDENT POST-MORTEMS

What caused that accident? What would have prevented it?

A review of cases by Franklin G. Pater

Industrial Department, NSC

Runaway Construction Equipment

After having completed compacting a section of roadway, the operator was moving the 12-ton, three-wheeled roller up the roadway to the parking area. As he came to a portion of the road with about a 10 per cent grade the gear shift lever jumped out of its locking notch and into neutral position.

The operator, instead of jamming on the brakes and then trying to throw the gear back into forward, became panicky and tried to work the gear lever back into forward with the roller in motion. As the roller started rolling backwards downhill and gaining momentum the operator tried to steer onto the road shoulder. By then the roller was moving quite fast and bumped into another vehicle parked on the roadside.

The impact broke the wooden guardrail built around the operator's platform. The broken guardrail jammed the operator against the front panel, fracturing his right arm and back. The injured operator fell, semi-conscious, to the floor and the roller contined, out of control, down the road.

A fellow worker near by sensed the seriousness of the situation and jumped onto the roller operator's platform and steered it into the side of the road where it came to a halt.

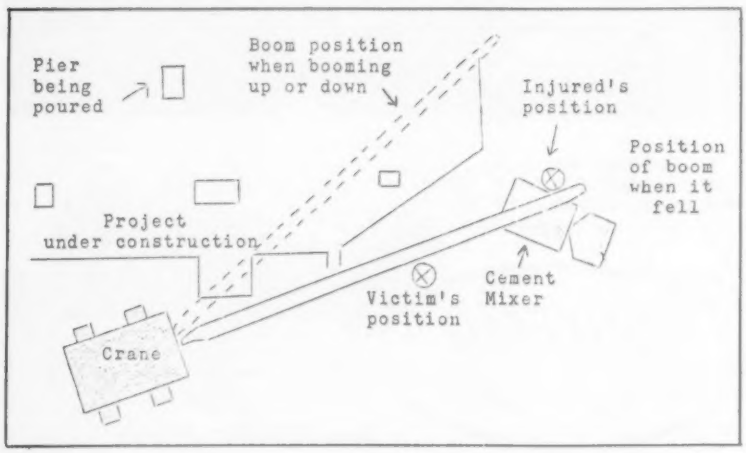
Investigation. A careful investigation of the accident brought out the following facts:

1. The notches holding the gear lever in position were too shallow. Correction was made so that once the gear is put into forward or reverse there would be no chance of it ever jumping out.
2. The operator's platform guardrail was inadequate in that it was constructed of wood. Steel guardrails were installed.

Faulty Equipment Design

A crane was being used to hoist a bucket filled with concrete from the mixer in the yard to the high points on a new construction job. The victim was about 15 ft. from the mixer (see illustration), moving in under the boom to push the bucket into loading position. The 30-ft. boom suddenly dropped 20 ft., striking the victim on top of the head and also striking a laborer who was on the far side of the mixer.

The operator was watching the bucket. When he saw the bucket continue to lower after breaking the cables he looked up and saw that the boom was falling. He seized the lever which had slipped out of the locking position and attempted to stop the boom, but it was too late.



Investigation. Subsequent complete disassembly of the crane revealed that the dog on the lever controlling the raising and lowering of the boom did not fit properly in the notches of the ratchet bar. The crane operator had pulled this lever back to locking position before swinging the boom around. The dog may have just caught on the edge or corner of the notch and a jarring of the crane allowed it to slip off, releasing the boom brake and letting the boom fall.

The investigation committee found that the men were not wearing hard hats, and that they were standing under the boom. It was the consensus of the inspecting committee that if hard hats were worn that it might have lessened the seriousness of the accident.

Comment. Both the above two accident descriptions showed faulty machine or mechanical design. Serious accidents could have been prevented had the machines been properly designed, and had they been inspected thoroughly at the time of purchase. Possibly these machines had worked satisfactorily for some time but, due to some wear and tear and constant use, they had become slightly worn, and the defects only showed up after they had been used for a while.

In both cases an injury might have been stopped or avoided had the employees followed some job instructions; however, the accidents would not have been stopped

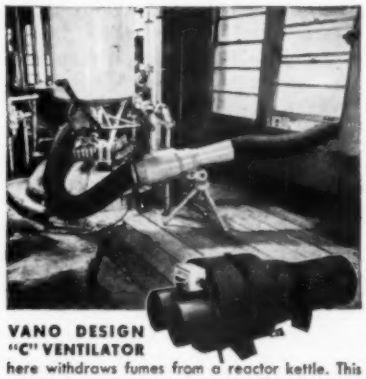
COPPUS "BLUE RIBBON" VENTILATORS

Used in wide variety of applications throughout industry

Improve workers' safety . . . health . . . comfort . . . efficiency

VANO DESIGN "A" VENTILATOR is used here during repairs to a chemical still. This type ventilator is used to ventilate tanks, tank cars, drums, vats, underground cable manholes, pipe galleries, airplane wing compartments, fuselages and other confined places. Uses 8" diameter flexible canvas tubing ("Ventube").

VANO DESIGN "B" VENTILATOR here discharges welding fumes from double-bottom compartment in naval vessel under construction. Large volume of air handled quickly expels fumes and results in good ventilation. Vano Design "B" can pass through opening only 14" in diameter. Uses 8" diameter flexible canvas tubing ("Ventube").



VANO DESIGN "C" VENTILATOR here withdraws fumes from a reactor kettle. This ventilator can be furnished with 8" suction inlet for 8" non-collapsible suction tubing — or multiple inlet nozzles for 5", 4", and 3" suction hose. The discharge may be connected to 8" "Ventube." Capacities furnished on request.

NO. 2 AEROPLANE HEAT KILLER here directs cool, fresh air on worker in drop forge plant. Heat killers restore workers' efficiency by providing extra ventilation in the hot months, or on any job where workers are continually or periodically required to work in excessive heat. Available in two types, three sizes in each.

VENTAIR DESIGN TE-4 VENTILATOR Gasoline Engine Driven, here delivers air into underground manhole. These ventilators provide fresh air to men in confined places, promoting safety, comfort, and increasing efficiency. Ideal where no electric current is available. Delivers 1700 CFM of fresh air. Uses 8" diameter flexible canvas tubing ("Ventube").

PORTAIR NO. 4 BLOWER EXHAUSTER exhausts fumes resulting from soldering, welding, tank coating, is also used in ventilating small tanks. It is designed to permit attachment of 4" flexible metal hose. Capacity: 425 CFM free air.

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Please send me information on supplying fresh air to men working:

- ☐ in tanks, tank cars, drums, etc.
- ☐ in underground cable manholes
- ☐ in aeroplane fusilages, wings, etc.
- ☐ on coke ovens
- ☐ on steam-heated rubber processes
- ☐ on boiler repair jobs

COOLING:

- ☐ motors, generators, switchboards
- ☐ wires and sheets
- ☐ general man cooling
- ☐ around cracking stills
- ☐ exhausting welding fumes
- ☐ stirring up stagnant air wherever men are working or material is drying
- ☐ drying of walls, sheets, etc., after treated with coating material

Name .....

Company .....

Address .....

City ..... Zone .... State .....

Write here any special ventilating problem you may have { _____ _____

regardless of how faithfully and accurately the employees would have followed job instructions. The accidents were definitely caused by poor equipment design.

Common Chemicals Are Hazardous, Too

A laboratory assistant was lifting a 7-lb. reagent bottle of concentrated nitric acid from a storage cabinet directly underneath a fume hood. The bottle broke, showering her legs and feet with the acid.

A research associate, only a short distance away, made the spot decision not to flood her with the available safety shower, but instead promptly placed her in a nearby sink and thoroughly washed her legs and feet. The spilled acid was neutralized with a 20-lb. dry chemical fire extinguisher (sodium bicarbonate) by employees wearing oxygen breathing apparatus to protect them from the toxic oxides of nitrogen which almost always follow a nitric acid spill.

Investigation. The investigating committee came up with the following conclusions:

1. Whenever feasible, use 1-lb. bottles (or smaller) instead of the large reagent bottles.
2. Pipette suction should be applied by a rubber bulb or a vacuum line connection, not by the mouth.
3. Carry and handle bottles at all times so a spill or breakage will not cause injury.
4. Although not a factor in these incidents, adequate eye protection should be worn during laboratory work.

Comment. In many laboratories today chemicals such as nitric acid and similar materials are stored in carboys in racks in a separate storage area of the laboratory. When some material is wanted employees use a 1-lb. reagent bottle and withdraw the needed amounts from the permanent storage area.

Possibly in this case the 7-lb. reagent bottle bottle should have been immediately placed in a bottle carrier before being put in the storage cabinet.

Although not all laboratory chemicals can be stored in nonbreakable bottles there is a tendency to switch to the use of nonbreakable containers wherever possible.

Inter-Connected Boilers Cause Burns

On February 1st the boiler house supervisor instructed a man to begin to repair and clean steam drum No. 2, while other workers were repairing and cleaning the boiler. At the outset of the work the supervisor personally checked all valves and convinced himself that these were closed. A week later, in the morning, the drum was filled with water for checking and repair work. Later in the afternoon the supervisor opened one valve in order to drain the drum again. After draining it he closed the valve. The outlet pipe of drum No. 2 leads to the outlet pipe of drum No. 3 at a point near the condenser.

Three days later, during midday, a blow down on drum No. 3 was affected and the hot water encountered certain unexplained resistance in the outlet pipe of the condenser and suddenly entered the outlet pipe of drum No. 2 and entered into drum No. 2.

At that moment the engineer and another man were inside the drum. Hot water began to spray inside the drum, scalding their

FOILLE AEROSOL SPRAY
THE 4-WAY BURN TREATMENT

RELIEVES PAIN
Cool and soothing, Foille has an anesthetic effect on injured nerve endings, helps control shock.

AIDS HEALING
Foille forms a soft pliable film, giving injured tissues a chance to heal quickly; reduces scarring.

PROTECTS AGAINST INFECTION
Effective cleansing properties and antiseptic action work quickly, combat most surface bacteria.

INSTANT AND RAPID APPLICATION
Aerosol spray technique permits instant application to any size injury, any place on body. No applicators or swabs necessary.

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SAFETY EQUIPMENT HEADQUARTERS
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At Your Service—82 Branch Offices in the United States and Canada

M-S-A FOILLE BURN KIT
Contains four 10-oz. Foille Aerosol Sprays, complete assortment of Type D First Aid dressings. All-Weather case. Easy to use. Write for complete details.

arms, legs and lower parts. As the opening of the drum only allows one person at a time to escape, the second man had to wait inside the drum until his assistant had crawled out before he could escape.

Prior to the accident, there had been three times in which customary blow downs on boiler No. 3 were affected, and during those same days and nights, additional blow downs were affected. Nobody noted that during the previous blow downs hot water had entered into drum No. 2 which indicates that the valve which had been opened for drainage had been closed, because during these hours work was affected inside and outside of drum No. 2.

Investigation. The plant organization has issued firm instructions to observe tank entry precautions in future boiler repair operations. Outlet pipes will be separated and safety regulations will be strictly followed in future boiler construction.

Comment. The drain valve of drum No. 2 must have been left open, and possibly the outlet from the condenser was plugged up and the hot water backed up into drum No. 2.

Heads Fire Equipment Manufacturers' Assn.

R. L. WEIR, vice-president, The General Detroit Company was elected President of the Fire Equipment Manufacturers' Association at the Association's Annual Meeting in New York City, March 21.

Other officers elected included W. E. Morgan, Jr., Industrial Sales Manager, Walter Kidde & Company, First Vice President; A. D. Symonds, Treasurer, W. D. Allen Co., Second Vice President; and Paul Nurkiewicz, Vice President, Stop-Fire, Inc., Treasurer. Hanson & Shea, Inc., Pittsburgh, Pennsylvania, was again retained as Commissioner for the Association.

In announcing the Fire Equipment Manufacturers' Association plans for 1956 Mr. Weir outlined plans for an industry program which includes statistics, sales and marketing, and a broader public relations program.

Member companies of FEMA include: W. D. Allen Manufacturing Company, American LaFrance Corporation, Ansul Chemical Company, Badger Fire Extinguisher Company, Elkhart Brass Manufacturing Company, The Fyr-Fyter Company, The General Detroit Corporation, Walter Kidde & Company, Miller-Peerless Manufacturing Company, The Phister Manufacturing Company, Pyrene-C-O-Two, The Safety Fire Extinguisher Company, Safety First Products Corporation, and Stop-Fire, Inc.

Sometimes a man with a clear conscience has only a poor memory.

It takes a lot of time to get experience, and once you have it you ought to go on using it.

Protect workers' hands from acids

NEW HOOD B-41

BUTYL GLOVES

Exclusive, non-porous butyl rubber resists strong acids . . . lessens danger of injury by absorption. Flexible, comfortable and rugged, too.

7703 NEOPRENE COATED
14½" industrial weight with natural-fit fingers.

PV-98 PLASTIC COATED
Standard weight, abrasive-resistant, liquid-proof.

R-60 "GRIP-ALL"
Coarse dust coated for handling slippery objects.

There's a HOOD *Glove for every job: gauntlet, glove or mitten*

HOOD RUBBER CO., Watertown, Mass.
a division of the B. F. Goodrich Company

Write for free Hood Glove Guide — shows you how to choose the RIGHT glove for EACH job.

RUBBER · NEOPRENE · PLASTIC COATED INDUSTRIAL GLOVES

Inside NSC

with Fred Lubet

Activities and people at 425 North Michigan

More Mileage From Your Membership Dollar

No one Council member comes close to using all the services and safety program aids which the Council offers. There are, in fact, so many services and aids that a few have been inadequately publicized with the result that some members do not know of their existence.

Below are described eight somewhat lesser-known, but highly useful, Council services, all effective means of adding zip to your safety program and of getting a little more mileage out of your membership dollar.

Purchased service credit. The typical safety man is a retail shopper. That is, he buys materials for his program a little at a time, as needs occur—a couple of Green Cross pencils this week, six data sheets next week, and a hundred safety instruction cards the week after. None of these purchases may exceed five dollars, but each requires a purchase order, and all the other formalities necessary before spending company money.

There is a way of cutting this red tape. Simply deposit with the Council one check to cover your anticipated safety expenditures for the next six months or year. This will be set up as service credit—sort of a bank account. The cost of materials purchased will then be "drawn" against this account, and you won't be bothered with purchase orders, etc., until your account is used up. (Every time you make a purchase we notify you of your new balance.)

Administrative units for branch plants. Many safety men are faced with the tough responsibility of administering a safety program in a plant (or plants) far removed from company headquarters, and no time or budget for personal administration. The problem can be so solved largely through administrative unit subscriptions.

Administrative units are simply a combination of basic Council publications (such as NATIONAL SAFETY NEWS, Section newsletters, *Accident Facts*, and the *Accident Prevention Manual*) designed to keep management personnel informed on safety. The types of administrative units are listed on page 13 of Service Guide 2.1. By subscribing to units for key personnel at distant plants you have assurance they are receiving safety program materials and ideas regularly.

Special service for drivers. Most industrial firms employ some full-time drivers, perhaps a few, perhaps a few hundred. Driving in today's traffic conditions is a highly hazardous occupation. But drivers are often the "forgotten men" in the industrial safety program.

The Council offers a package program especially for driving personnel, consisting of administrative materials, driver-reminder materials (monthly driver letter, *Safe Driver* magazine, posters), and the highly effective Safe Driver Award plan to provide recognition to drivers with exceptional safety records.

The entire service costs only a few dollars per year per driver. Write for information on the Motor Transportation Service and for Service Guide 106.1.

"Operation Safety." Many industrial safety men are being called upon by their communities to help develop programs for the prevention of traffic accidents. Most of these programs are sponsored by civic clubs and other community organizations, and are designed to educate drivers and pedestrians in safe practices.

The Council's "Operation Safety" is designed to assist organizations to promote traffic safety on a year-'round basis. The kits provide authoritative background information, program ideas, radio scripts, newspaper releases, and promotion material. The annual subscription to "Operation Safety" is only $13.25. Write for free brochure.

Company publications. Looking for free safety features for your company publication? The Council can provide mats or proofs of cartoons and quizzes on industrial, traffic, and off-job safety topics. Also available, a monthly newsletter for industrial editors. See page 24 of Service Guide 2.1 for details.

Award plan. A good safety record deserves all the recognition and publicity it can get. The Council's "Award Plan for Recognizing Good Industrial Safety Records" provides this. The Plan is open to all Council members, and is designed to give every company, regardless of size or kind of operation, equal opportunity to win an award. It is also set up to recognize *every* good safety record, not just the few best—more

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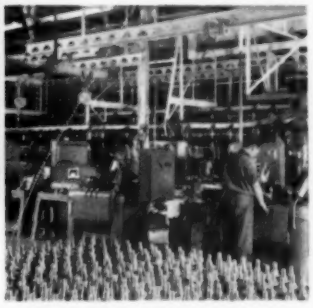
TIP OF THE MONTH

Don't wait for the mailman to deliver your copy of the recently published *Supervisor's Safety Manual*. This book is *not* a technical publication automatically sent to each member (as was the *Accident Prevention Manual*). It is a specially produced publication, available at the member price of $3.25. Write to the Membership Department for brochure and quantity prices.

Pittsburgh COLOR DYNAMICS®
used in new Plymouth V-8 Engine Plant

• Beams and cross braces painted the same color as ceiling improves the appearance of the intricate maze of overhead conveyors. Work areas are also made to seem more spacious.

Modern system of painting contributes to quality of production and the morale and safety of workers in Chrysler Corporation's multi-million dollar "Qualimatic" factory.



• Inspectors are assisted in their tasks by eye-rest colors on equipment used to check the alignment of crankshafts.

• Eye-rest colors are an excellent contrast for the panels of signal lights on this battery of 72 automatic "hot test stands".

ONE of the most important developments of the vast expansion program undertaken by the Chrysler Corporation is its new multi-million dollar "Qualimatic" engine plant in Detroit, Michigan. Hy-Fire 200 h.p. V-8 engines for Plymouth motorcars are produced here at the rate of 2½ per minute.

• **Walls, ceilings, floors, machines,** conveyors, motorized trucks and overhead cranes throughout this huge structure are painted according to Pittsburgh's system of COLOR DYNAMICS.

• **Exclusive automatic** quality control processes have made this plant one of the nation's industrial show places. Newly developed mechanized equipment has supplanted conventional power tools in processing, assembling, inspecting and testing.

• **Widespread use** of automated machinery has reduced physical effort. But nervous tension which affects productive efficiency remains to be coped with. This tension is often caused by eye fatigue. COLOR DYNAMICS painting helps to reduce eye strain by the proper use of eye-rest and focal colors which aid operators to see their jobs better.

• **Warning and safety colors** on machine controls, conveyors, traffic lanes, trucks and cranes alert workers and reduce danger of time-loss accidents.

• **COLOR DYNAMICS** creates a more attractive, cheerful environment for the work force which contributes to better morale. Employees take greater pride in their surroundings. They help to keep work areas clean and orderly, reducing housekeeping problems.

• **Why not test** the practical value of COLOR DYNAMICS in your plant? Try it on a machine or two—or in a whole department—and see the difference.

How to Get an Engineered Color Study of Your Plant—FREE!

• We'll be glad to mail you a free copy of our fully-illustrated book on COLOR DYNAMICS for industry. It explains simply and clearly what this painting system is and how to apply it on machines, walls, ceilings, and mobile equipment.

Better still, we'll prepare an engineered color study of your plant, or any part of it, without cost or obligation. Call your nearest Pittsburgh Plate Glass Company branch and arrange to have our representative see you. Or mail coupon at right.

Send For FREE Book!

Pittsburgh Plate Glass Co., Paint Div., Department MSM-66, Pittsburgh 22, Pa.

☐ Please send me a FREE copy of your booklet "*Color Dynamics.*"

☐ Please have your representative call for a Color Dynamics Survey without obligation on our part.

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EDWIN J. THOMAS

Portrait by Fabian Bachrach

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"The Savings Bond Program—like any other program in a corporation—will succeed *only* if it has the complete support of top management. Recently the Goodyear Tire & Rubber Company added over 20,000 employees to the Payroll Savings Plan, attaining an overall participation of over 71%. While the drive itself was successful I feel the job is only half done. Now we are installing a program to maintain this high peak of participation. Such a program will constantly keep the merits of the program before each employee, encouraging him to provide his own security through this effortless plan of saving."

EDWIN J. THOMAS, ***President***
The Goodyear Tire & Rubber Company, Inc.

What is the percentage of employee participation in *your* Payroll Savings Plan? If it is less than 50%, get in touch with Savings Bond Division, U.S. Treasury Department, Washington, D. C. Your State Sales Director will be glad to help you increase your participation to 60% or higher. A phone call, telegram or letter to Savings Bond Division, U.S. Treasury Department will bring a prompt response.

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NATIONAL SAFETY COUNCIL

Watch Those Eye Trays!

By HEDWIG S. KUHN, M.D.

Unless surgical cleanliness is maintained, the plant dispensary can spread eye infections. In compliance with the law, drug houses are now using methods of packaging medication that reduces chances for contamination in use

IN EVERY recent article on emergency and first aid care of eye injuries, emphasis is placed on the importance of avoiding contamination of ophthalmic medication and equipment. But until recently little attention has been paid to the fact that such contamination may have tragic consequences.

We knew during the war, for instance, that epidemic keratoconjunctivitis (EKC) was actually spread in dispensaries, first aid stations and medical offices, rather than carried from man to man at the work benches, or even in the wash rooms. This was demonstrated in Detroit where *all* cases of suspected EKC from industries in the area, were sent to a central clinic for care, and not allowed in the plant dispensaries.

The EKC virus can be "carried" in the conjunctival secretions without producing disease in that person. In other words, if a simple foreign body is removed from a "carrier," and the dropper used is not sterilized before it is used again, the next patient may get EKC. It was through the setting up of such strict measures that Detroit, with its key wartime industries, avoided such massive epidemics as occurred on the west coast, the east coast, and later in parts of the midwest.

Only in the last few years has the law assisted us in protecting ourselves and our patients by providing bacteria-free ophthalmic medication from drug stores and drug houses. Formerly, when bottles were allegedly boiled and cleaned, there was no penalty involved if solutions were contaminated either in factories or stores. Now there is a law making it mandatory that ophthalmic solutions be sterile.

Efforts have been made by many drug houses to package ophthalmic solutions and ointments in a way that reduces likelihood of contamination after they reach the eye tray. Among such devices employed are sealed plastic dropper-bottles with tips that can be cleaned with alcohol after use; sterile ophthalmic drugs for surgery; "unidose" packaging; disposable plastic droppers; autoclaved disposable fluorescin strips, and many others. Thus in dispensaries the use of stock solutions, droppers and medicine glasses—always dangerous—can be eliminated.

It has long been preached, but seldom practiced, that one should never use the dropper out of a stock bottle on an eye tray to put medication into an individual's eye. The practice is being violated because some nurses are insistent that they can drop medicine into an eye without touching any part of it. This is simply not true; *no one* can avoid occasionally touching the conjunctiva, lashes or globe. When this happens, and the dropper is re-inserted in the stock bottle, the result is contamination.

An important procedure in the absence of specially packaged medicine is to sterilize each individual dropper immediately after use, and also each individual medicine glass holding the topical medication. Hands should be washed before attending each patient—as much for the nurse's or doctor's protection as for the patient's.

In spite of the use of sterile droppers and sterile medicine glasses, contamination can occur even in stock bottles on the eye tray that have been opened—we do not know why. Any plant or medical department or doctor's office that sees many eye cases should culture all ophthalmic solutions on the eye tray at least once a week. We have done this

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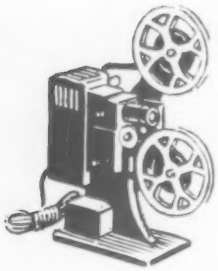
DR. HEDWIG S. KUHN, a partner in the Kuhn Clinic, Hammond, Ind., is a consultant in industrial eye problems. She is secretary of the Joint committee on Industrial Ophthalmology of the American Medical Association and the American Academy of Ophthalmology and Otolaryngology and is currently serving in many organizations concerned with eye conservation. This article is reprinted with slight abbreviation from *Sight Saving Review*, published by the National Society for the Prevention of Blindness.



Don't Get in a Rut With Visuals

It takes variety to make a picture worth 10,000 words. There is no universal solution, but careful planning will add impact to your story

By ROBERT K. KONIKOW

FEW people in the association field today have to be sold on the use of visuals, whether they be simple charts or a full-scale motion picture. The adage that one picture is worth 10,000 words seems to have been accepted in its entirety. The difficulty is that too many people get into a rut. They once used flip charts successfully, and from that time on, nothing but a flip chart can tell their story.

There are many methods now available to put a picture before an audience. Each has its advantages and disadvantages. No single method is the universal solution to all problems of communication. Let's take a look at some of the more commonly used, and examine some of the factors that might enter into your selection.

Size of Audience

One of the first factors to consider is the size of the audience. With rare exceptions, flat art work cannot be used with a group larger than a couple of hundred. By flat work I include charts on cardboard, flipovers, blackboards, flannel boards, and magnetic boards. To make anything of this type visible to a large audience, you either have to simplify the material to the point of uselessness or your material becomes so big that it presents a serious handling problem.

Of course, if you develop a method for solving the handling problem, extra-large visual materials can be extremely effective. During the war, I stage-managed a couple of presentations made by General Marshall to a secret joint session of the Congress, using maps and charts that were on 8 ft. x 12 ft. panels. To display these, we built a large frame into which the panels slid from one side, behind the curtains. The charts were changed smoothly, on signal from the General, with no chart handlers in view at any time. It took a crew of five to operate the show, and we needed a large backstage area, but the results were quite effective.

Another way of handling an over-size chart is to use window-shade material which can be hung either flat, somewhat similarly to backdrops, or which can be rolled down when needed.

Proper Lighting

In using any of these flat art work forms, it is essential to determine that illumination is sufficient. The legibility of a chart depends to a great extent upon the lighting. Don't wait until just before the meeting to see whether the lighting is adequate. One smart speaker always carries a couple of reflector lamps, each in the type of socket which ends in a rubber covered clamp. He hooks it onto the back of a chair, the edge of a table, or any other convenient point. (These clamp sockets can be obtained at most photographic supply stores.)

Another type of light that is easy to use consists of a 150-watt reflectorized bulb set in a metal sphere. This rests in a ring, allowing the bulb to be pointed in any direction. These gimbal lights are sold by window display people, among others.

Remember Yourself

When setting up lights, don't consider the charts only; think also of yourself. If you plan to use the charts actively (and if not, maybe you shouldn't use charts), you will be subjected to the light as much as will the art work. A light almost directly above you and the charts is fine

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ROBERT B. KONIKOW is a writer and public relations consultant in Washington, D. C. This article is reprinted from the *American Trade Association Executives Journal*, October 1955.

Higher Efficiency ... Greater Safety

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JalFlex Slings

If you want wire rope slings that have the greatest flexibility, high strength and long, safe service life, J&L offers you braided slings of outstanding workmanship combined with the particular design best suited to your job.

There's a JalFlex sling for every handling job from 55-gallon drums to diesel locomotives. Their quality is the result of J&L know-how in the production of steel, steel wire, and wire rope. Every unit in J&L's complete line is designed and proved to give you the safest, most economical material handling.

Find out about JalFlex slings today. Get a copy of the new JalFlex sling catalog. It gives easy-to-use information on J&L slings and fittings, including a J&L exclusive, JalKlamp, the special alloy sleeve that produces a splice as strong as the rope itself.

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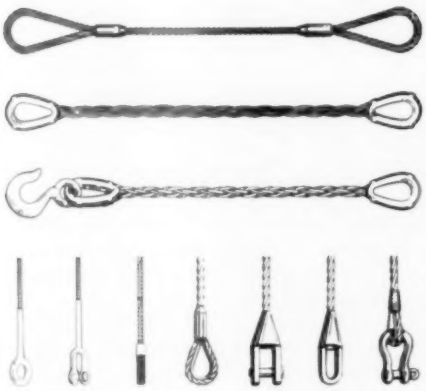

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J&L STEEL

for flat objects, but your face is not flat. Overhead lighting tends to emphasize the "bags under the eyes," and make your face look older. Light from below will adequately illuminate the charts, and will be much more flattering for you.

Actual art work becomes less useful when the audience gets larger. There are, however, ways of extending the range, as the Chamber of Commerce of the United States has done with its flannel board. When a presentation is to be made before a large group, Chamber officials station a couple of auxiliary boards along the side aisles, with complete kits of the art work. As the speaker builds his flannel board, his assistants build duplicate layouts on the auxiliary boards. This keeps the visuals within eye-range of the entire audience, without distracting attention too much from the speaker.

Projection Techniques

When art work and flannel boards will not meet a speaker's needs, it is then necessary to consider the various projection techniques.

Most familiar is the ordinary slide projector, to which the film strip projector is closely related. A somewhat distant relative is the overhead transparency projector, and finally, the motion picture projector on an almost entirely different level.

The opaque projector doesn't require too much discussion for our purposes. In many respects it is the easiest to use, since it requires little or no special advance preparation. It uses, as its name implies, an opaque object such as a clipping from a newspaper or the cover of a leaflet. Some models allow you to place an entire book in projection position, while others require you to mount the specimen which you want thrown on the screen. Since it uses reflected light, the image cannot be made too large or too bright. Therefore, it is particularly appropriate for small groups.

For large groups a method that uses transmitted light must be adopted. The standard 2x2 projector, familiar to so many who like to take color snapshots and project them at home, can be used here, and is the most common still-slide projector. Modern film is so good that it can be greatly enlarged and still maintain detail. The most common slide size used to be 2¼x3¼. This was large enough so that the ordinary magnification required was not too great, and also large enough to permit retouching to be done on the original. With the improvement of color film, however, the standard 35 mm. film has taken first place, since it is less expensive and takes up less room.

A Word of Caution

The larger the image needed the greater the amount of light you will require. A 300-watt bulb will do for your living room, but it won't be adequate for a large hall. A caution, however, is in order—be careful when you increase the wattage, since heat goes up along with the light.

I recall sitting in the Atlantic City Auditorium watching a slide show of organization charts. A tremendous screen had been installed specially for this presentation. In order to get the image bright enough so that the detail could be seen without darkening the entire auditorium and preventing note taking, a projector equipped with an arc light was used.

A short test showed that the cooling mechanism of the projector was sufficient, but no one the speaker. As he talked, there foresaw the long-windedness of was a sudden crack as the glass of the slide broke, followed by the sad sight of melting emulsion and merging colors. Very pretty, but it ruined an otherwise good presentation.

Another method of presentation is the popular film strip, which is merely a set of slides printed on a long strip of film. It is easier to pack, keeps the pictures in the correct order, and is not expensive in duplicate sets. As far as the audience is concerned, however, it is just a set of pictures, and the same considerations apply. Since slides are frequently one step toward making a film strip, it isn't usually worth the additional cost to get the pictures transferred from slides to film strips. There is also some loss in quality as you move further away from the original.

If, however, you have a film strip about to be released, a convention is a good place to hold its "premier." In this case, you can use the commentary on the standard film strip records, or you might find it more useful to pre-

—To page 119

the LIGHTER SIDE
NATIONAL SAFETY COUNCIL
WATCH YOUR STE...
IT DOESN'T PAY TO PLAY PRACTICAL JOKES ON YOUR BUDDIES, LINDSAY— ESPECIALLY HERE!
AUNT FANNIE PIE CORP
WHEW! WHAT ARE YOU LOOKING FOR? THE SALT TABLETS?

This is the secret to Titan protection

The picture tells the story.
Titan's dual trussed nickel-silver
bridge, riveted at four points, equips this
outstanding B&L metal-plastic safety frame to take
an unbelievable amount of punishment.

With its superior protection, extreme comfort, and flattering
S-7 lens shape, Titan has become an industry
favorite almost overnight.

Want to know more about Titan and the
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Lines of Communication

A safety program needs many media for transmitting ideas—and an open ear for employee reactions

By R. G. REEVE

COMMUNICATION in industry is a two-way process. Through it management receives and supplies information.

We are here concerned with the preparation of published information used to motivate employees at our West Allis Works toward safety consciousness and safe habits, so we shall treat only those agencies that convey ideas to our people.

It should be recognized, however, that we must remain sensitive to employee opinions and ideas through suggestions, supervisory experience, surveys, accident experience, grievances, and similar expressions.

By means of written communications we are attempting to motivate our people toward desired attitudes and conduct. This means we must develop clear-cut policies to guide programs, provide safety education at all levels, and compile rules or instructions where needed to insure safe practices.

Safe procedures *work* when employees accept and practice them. Less obvious is a related advantage — the crystallizing of our safety policies when they must be set down, approved and issued.

At our West Allis Works we use a wide variety of published information to motivate employees toward safety consciousness and safe habits. Ideas are presented at various levels and through many media. These may be classified into such areas as:

1. General—for all employees. This includes publications, posters, movies, etc.
2. Specific publications—for definite groups, such as supervisors and committeemen.
3. Safety manuals.

Included in the general classification are employee publications. *A-C Views*, published at our West Allis Works, is sent twice monthly to employees' homes. Safety is featured in frequent stories about special industrial and off-the-job safety promotions and in other articles. Once a year a special edition carries our annual safety report summary.

Special safety poster boards are located throughout the shops. These are changed at not less than bi-weekly intervals with posters from the National Safety Council, insurance companies, or posters prepared by the safety section. In addition, we have 200 safety glass cleaning stations in which we display 8½ by 11-inch safety messages.

Safety movies have proved of interest to our people. A film library has been established for our own use as well as for loan of films to employee groups and outside agencies or industries. New employees are shown a film in connection with their orientation program. Movies are also used in foreman safety sessions and safety committee education sessions.

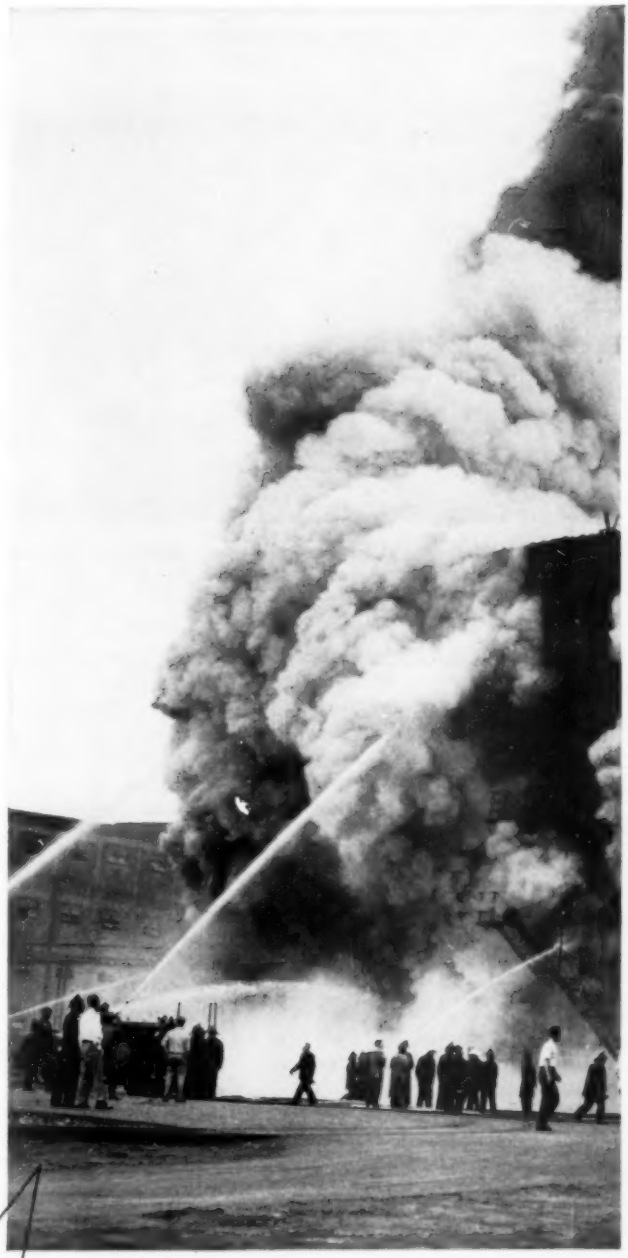
Films are shown in selected shop areas during lunch periods where feasible. As this period is short, only a 15-minute film program can be shown, part of it being of an entertaining nature,

R. G. REEVE is Administrative Supervisor, Safety Services Section, Allis-Chalmers Manufacturing Company, Milwaukee.

SAMPLES of the wide variety of written material prepared by Allis-Chalmers Safety Services Section.

Play it safe!

use only
Ampco** Safety Tools
for any job
where fire can occur



When employees must work under unsafe conditions, they tend to do "hurry-up" jobs. That's why you're money ahead when you insist that they use only Ampco Safety Tools in any location where a dangerous hot spark could touch off an inferno.

Ampco Safety Tools are approved by Factory Mutual Laboratories and other safety authorities, for use wherever there are dangerous, inflammable liquids, gases, dusts, or vapors — wherever one slip of a tool could start a disaster.

Play it safe. Select your safety tools from the Ampco line — the world's largest with more than 400 items. Order Ampco today for all your hazardous jobs.

How to choose Safety Tools

For tools subject to impact and/or torque — specify Ampco Metal.

For tools that have cutting edges or gripping teeth — specify Ampco Beryllium Copper Tools.

For tools to be used in the vicinity of acetylene or similar gases — Specify Ampco Monel† Tools.

†T. M. International Nickel Co.

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West Coast Plant,
Burbank, California

In Canada . . .
it's Safety Supply Co.,
Toronto, Ontario

*Reg. U. S. Pat. Off.

T-16

STUDYING a blinker light for use on cranes to warn crane operators that maintenance men are working is the Maintenance and Construction Committee, one of several standards committees appointed by the West Allis Works Safety Council.

such as comedy or sport shorts.

An employee handbook, *We Work In A Great Tradition*, is distributed to all new employees as they go on the payroll. Statements of safety policy, location of shop hospitals, and similar information are included.

The group of specific publications includes several media directed toward definite personnel, varying from employees to customers. An example is *Safety Highlights*, a monthly news sheet for supervisors, which once each quarter is slanted for general employee interest and placed in plant literature racks.

Whenever accidents occur that are of general interest from the standpoint of preventing recurrences, supervisors are provided with copies of *Accident Digests*.

The safety story is also brought home to the sales force in publications circulated to them. A safe plant is a top-notch sales feature since it helps to assure efficient production, quality products, and delivery according to schedule.

To guide engineering and production units on safety standards to be maintained or on safe procedures for handling hazardous materials, the safety section issues *Safety-Hygiene Standards and Data* periodically.

Safety manuals include booklets covering crane operators, trucking, grinding, railroad rules, field service work, and maintenance and construction services.

Preparation and production of any of the materials described involves a variety of problems. First, any publication should fulfill a need, either present or predicted. It must direct action toward the safety goal, whether it be motivation of safety attitude or a rule requiring conformity to a safe procedure.

Secondly, it is good practice to have such material approved by a management policy-making group. At Allis-Chalmers, this is a Works Safety Council consisting of the works managers, office manager, assistant manager of industrial relations, medical director, and the manager of safety services.

While the production work is performed by the Safety Services Section with the committees of line personnel appointed by the Council, the final product is analyzed and approved by the Council before issuance. Because the policy or procedure is developed through participation by line supervision selected by the Council, it moves smoothly into use in the shop organization.

Whenever the problem is of major significance, the Works Safety Council selects a committee of key personnel from appropriate production, maintenance, and engineering sections, and a comprehensive study is made of the entire problem area. Because of committee makeup, the approach to the problem is practical in nature, and final findings answer basic shop problems in terms that supervision and workmen clearly understand.

If a clear-cut need is established, it is then necessary to determine whether the material lends itself to the form of a poster, digest, policy letter, booklet, or standard operating procedure bulletin.

In drafting the material, regardless of its final form, the committee outlines it in logical organization, proper terminology, use of sketches or photos, and a layout that is conducive to easy reading. The value of illustrations cannot be over-emphasized. Use of photos and sketches portray exactly a condition that may be misinterpreted by written word only.

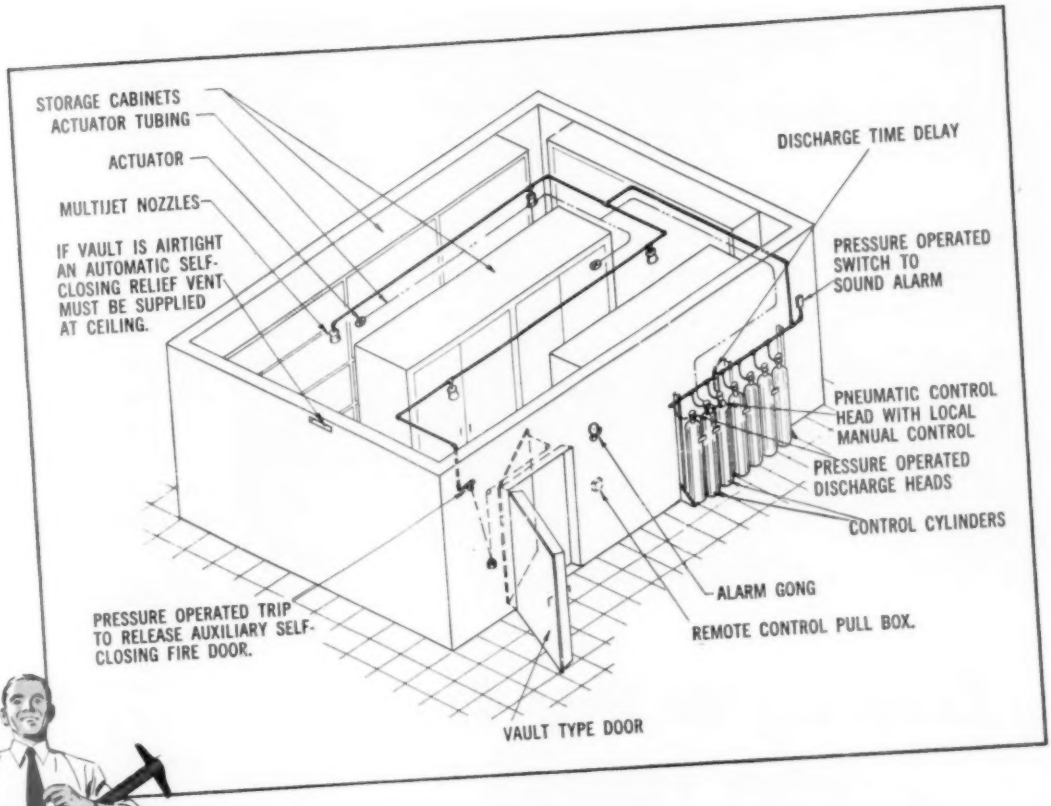
This rough draft is then refined by consulting with related groups in the Safety Services Section, production units, engineering, legal, public and employee relations.

When the final form is determined — and this means careful editing for clarity and exactness of meaning — the communication piece is ready for approval by the Works Safety Council.

How the material is to be reproduced varies with the size of the organization, availability of equipment, and the budget available for the job. A variety of duplicating methods is available. Number of copies and the size of the piece are important factors in arriving at the most desirable method. Paper stock should also be taken into consideration.

At Allis-Chalmers, the final choice is left to the discretion of people in the Stationery and Advertising and Industrial Press Departments, who are familiar with the best reproduction facilities for a given job. It should be remembered, however, that a policy or procedure is no less important because it may be reproduced by a low cost method.

—To page 116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ACTUATOR
MULTIJET NOZZLES
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Kidde systems have no falling weights, use no clumsy mechanical triggering methods. Pneumatic Control Heads insure instant and complete CO_2 discharge. All moving parts of a Kidde system are self-enclosed for safety, need no replacement after a fire, have easy-to-read indicators which show whether system is "set" or "released."

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Manpower is the big problem in the wood yard —to recruit and train safe, efficient crews in spite of seasonal operation. Here's an outline of one paper mill's program.

Evaluating the Wood Yard's Safety Problems

By PAUL W. FULLER

PROBLEMS confronting a superintendent are many and varied and involve all facets of an operation—men, materials, and machinery. Conferences and trade journals frequently devote much time and space to discussions of problems involving materials; machinery, and methods of operation, but seldom provide answers to stumbling blocks concerning the labor force.

These last are becoming more prevalent and critical daily. The basic causes behind this trend seem to be:

—Seasonal fluctuations in job opportunities discourage the more qualified employees from seeking employment and force management to choose from the less desirable portion of available manpower.

—Technological changes call for higher quality employees than ever before.

—Increased quality standards require a higher degree of skill on the part of operators.

These factors create problems typical of a situation resulting from inadequate personnel: low production, high accident rates, inefficient operation, and higher costs.

At Oxford's Rumford operation we evaluated these problems and decided on a program that would

—Provide a better means of selecting high quality employees.

—Train new employees to work more safely and efficiently.

—Retrain present workers in safer and more efficient methods.

—Train foremen to carry out the above functions and their other duties in a more efficient and effective way.

We called the project "Job Instruction Training Program," and included the factor of safety wherever hazards appeared. The specific objective was to instruct the foreman in the preparation of job instruction training sheets for each occupation in his department. This would help him train his men to make the most effective use of themselves, their machines, and their materials.

The project was broken down into basic elements and carried out as follows:

Planning Meeting. The supervisor, foreman, methods engineer, asssistant safety manager, and training manager held a meeting to decide upon the functions, duties, and areas of responsibility of each person taking part in the program. It was agreed that each man could coach the foreman in his own specialty.

Evaluating the Job. Each step of every job was evaluated in terms of

1. What is to be done.
2. Why it is to be done.
3. When it is to be done.
4. Where it is to be done.
5. Who should do it.
6. How it should be done.

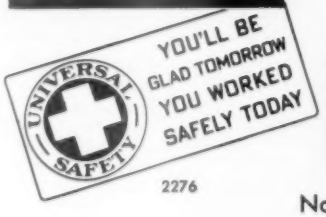
—*To page 78*

PAUL W. FULLER is superintendent, Mill Wood Department, Oxford Paper Company, Rumford, Me.

Efficiency!

992—US

976—B



2276

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Recording the Information. A form designed to accommodate any job in the industry was prepared for recording the information.

Teaching the Job. The job instruction sheet is so prepared that the foreman can teach an employee to do each step of his job following a "what-to-do, how-to-do-it" outline.

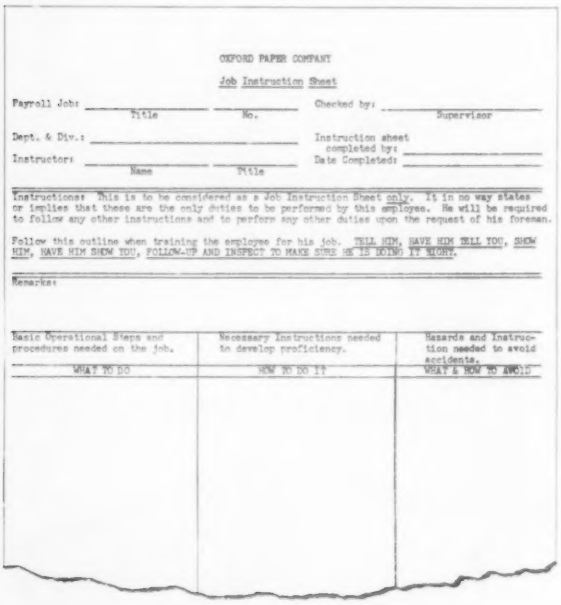
This is what the program accomplishes:

—Each job is evaluated in terms of its physical, educational, knowledge, and skill demands to serve as a basis for selecting suitable employees who can be trained to handle adequately all the jobs in the line of promotion.

—Through proper training, we can make most effective use of men presently employed.

—Properly trained men will make more efficient use of materials and equipment.

—Well-trained men operate safely without danger to themselves, others, machinery, and the product.



OXFORD PAPER COMPANY

Job Instruction Sheet

Payroll Job: _____ (Title) _____ (No.) Checked by: _____ (Supervisor)

Dept. & Div.: _____ Instruction sheet completed by: _____

Instructor: _____ (Name) _____ (Title) Date Completed: _____

Instructions: This is to be considered as a Job Instruction Sheet only. It in no way states or implies that these are the only duties to be performed by this employee. He will be required to follow any other instructions and to perform any other duties upon the request of his foreman.

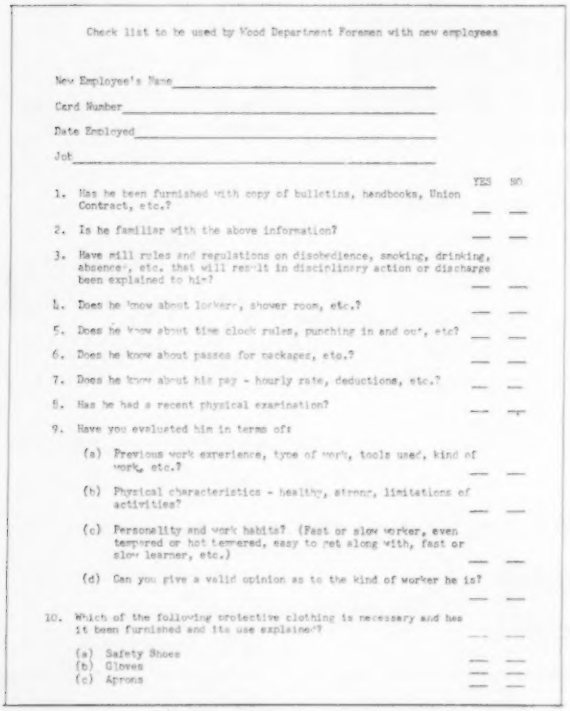
Follow this outline when training the employee for his job. TELL HIM, HAVE HIM TELL YOU, SHOW HIM, HAVE HIM SHOW YOU, FOLLOW-UP AND INSPECT TO MAKE SURE HE IS DOING IT RIGHT.

Remarks:

Basic Operational Steps and procedures needed on the job.	Necessary Instructions needed to develop proficiency.	Hazards and Instruction needed to avoid accidents.
WHAT TO DO	HOW TO DO IT	WHAT & HOW TO AVOID

THE FOREMAN'S JOB in training new employees is made easier and more systematic by use of this job instruction sheet. Each job is analyzed according to basic operational steps and procedures, methods of developing proficiency, hazards to watch for and how to avoid them.

AN INVENTORY of each employee's qualifications and training is provided by the check list shown below. It covers conditions of employment, personal details, protective equipment, tools used on the job and record of instruction on specific subjects.



Check list to be used by Wood Department Foremen with new employees

New Employee's Name_____

Card Number_____

Date Employed_____

Job_____

	YES	NO
1. Has he been furnished with copy of bulletins, handbooks, Union Contract, etc.?		
2. Is he familiar with the above information?		
3. Have mill rules and regulations on disobedience, smoking, drinking, absence, etc. that will result in disciplinary action or discharge been explained to him?		
4. Does he know about lockers, shower room, etc.?		
5. Does he know about time clock rules, punching in and out, etc?		
6. Does he know about passes for packages, etc.?		
7. Does he know about his pay - hourly rate, deductions, etc.?		
8. Has he had a recent physical examination?		
9. Have you evaluated him in terms of:		
(a) Previous work experience, type of work, tools used, kind of work, etc.?		
(b) Physical characteristics - healthy, strong, limitations of activities?		
(c) Personality and work habits? (Fast or slow worker, even tempered or hot tempered, easy to get along with, fast or slow learner, etc.)		
(d) Can you give a valid opinion as to the kind of worker he is?		
10. Which of the following protective clothing is necessary and has it been furnished and its use explained?		
(a) Safety Shoes		
(b) Gloves		
(c) Aprons		

Page 2

	YES	NO
10. (Contd.)		
(d) Goggles		
(e) Storm Clothes		
(f) Other		
11. Have you given worker instruction concerning reporting of injuries, accidents, how to reach First Aid Room, etc.?		
12. Have you furnished the worker with the necessary tools and demonstrated the proper care and use of the tool?		
(a) Scratch Hook		
(b) Strike Hook		
(c) Car-Jack		
(d) Cant-dog		
(e) Crow-bar		
(f) Pike-Pole		
(g) Pickaroon		
13. Have you instructed and demonstrated to the new worker the safe way to:		
(a) Lift		
(b) Walk		
(c) Fall		
(d) Jump		
(e) Brake car tiers		
(f) Place bridges and aprons		
(g) Cross the railroad tracks		
(h) Crossing between railroad cars		
14. Are you sure you told, demonstrated, had the new worker tell you, demonstrate to you and periodically checked the performance of the new worker in all the important details of his job?		
15. Have you insisted that the new worker use his tools and do his job as it should be done?		
16. I (would) or (would not) recommend this employee be hired as a permanent employee.		
17. I have checked the tools and equipment each is that were issued to the new employee.		

Foreman_____

Date_____

Supervisor_____

Date_____

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Styl-Ize A NEW LENS SHAPE

Attractive, modern industrial styling

MODERN BRIDGE DESIGN

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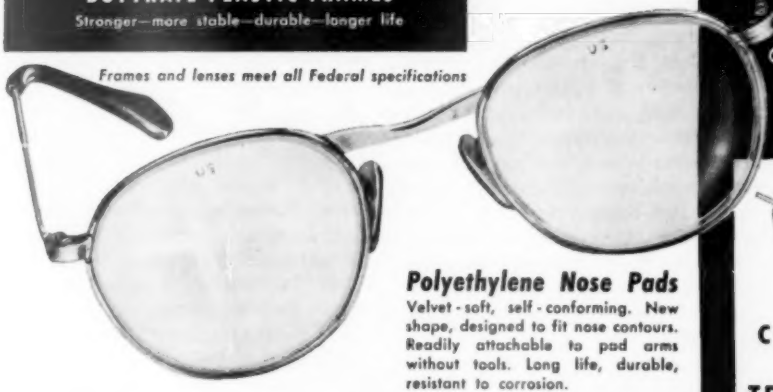
Frames and lenses meet all Federal specifications



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The Camera Sees and Remembers

Got a right-and-wrong story to tell? Want to record the details of that accident? The camera will do it

By ROBERT J. GELL and EARL R. WALLACE

TO BE effective a photograph must show specific information. When taking a picture we must be sure that we have planned well enough in advance so that our finished product will show the center of interest in such a way that everything is complete.

In accident prevention work, we govern ourself by the same basic principles that we do in photography. We are concerned primarily with the composition of the picture, and must therefore, ask ourselves fundamental questions: How big an area should we cover? What is the center of interest? What are we trying to show by means of this picture? What questions are we trying to answer? What experience are we trying to record? What value will the finished product have if the above questions are answered properly?

This may seem like a hopeless task. It really is quite simple. When we view an accident scene or a bad housekeeping situation, and decide to photograph this scene, we have answered one of the questions — perhaps many more.

No doubt many of us have watched an amateur photographer, or even a professional, put his two thumbs together and hold his hands straight up in the air at arms length and peer at an object. He is selecting the composition that he feels is best for his need. If, for example, he is taking a photograph of a sunset, he tries to locate the sunset in the picture so that it not only will be there but will tell a story. Telling a story by means of pictures is the greatest value that photography can have in accident prevention.

For example, an employee while driving a truck on a loading platform, placed the dock plate in position and then backed the truck across the dock plate into the railroad car. As he did this, the dock plate slid from between the dock and the car, and landed in the street. The truck fell between the platform and the street, with the forks and mast hooking on the platform, and with the driver's seat and part of the back catching on the freight car door. The battery fell out of the truck and smashed onto the street.

No doubt, your mind formed a picture of the situation. Now, we shall see how easy it would be to explain this in photographs.

In a picture, we could show the fork truck suspended between a railroad car and a platform. The picture could be taken within minutes of the accident; it serves as an execellent record of the complete situation. In addition, there are specific points in the picture which could play an important part in accident investigation work:

1. The position of the truck.
2. The position of the battery.
3. The specific position of the dock plate and the railroad car in relation to the building entrance.

What could we learn from a picture of this type? First of all, we would find that the railroad car was not in exact position to the loading dock doorway. Second, we would see that the loading plate was not properly pinned. Third, it would show that the operator backed his truck onto the loading plate before he checked the pinning.

How would we use this picture? It can be posted on bulletin boards to illustrate the value of proper truck operation, it can be used in foremen's meetings or truck training programs, it can be used to determine the extent of damage to a vehicle, to illustrate the reasons why rules are enforced on the proper positioning of railroad cars to dock entrances, and as a constant reminder to truck operators that every detail must be thoroughly checked.

You could take another picture from the opposite side of the same accident.

A second position might show the extensive damage to the rear section of the truck, to the battery case, and that the seat and the mast have aided considerably in preventing severe injury to the operator.

—Turn page

ROBERT J. GELL is Staff Assistant and EARL R. WALLACE Safety Engineer, Paper Mills Div., Eastman Kodak Co., Rochester, N. Y. This article has been condensed from a paper presented before the Pulp and Paper Section, 43rd National Safety Congress, October 1955.

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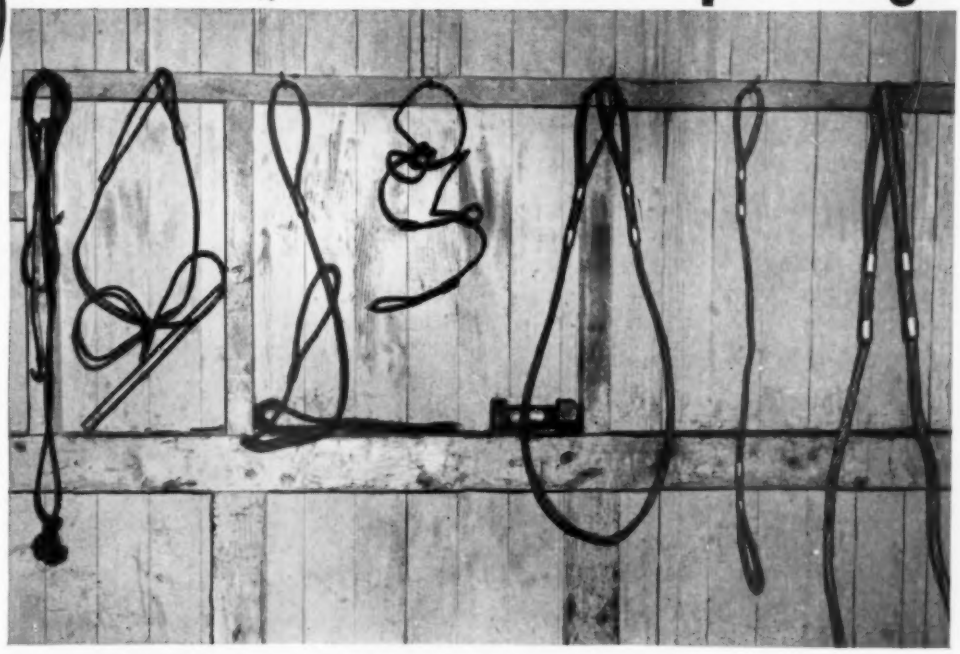

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Better Value

Now picture yourself in a different situation. There is a truck charging station located in the corner of a building. An operator moved his truck into the location, but failed to note the guard rail around the charging location. Consequently his truck was struck in the rear by the railing, which pushed him forward into the still moving truck and caused the reverse shifting lever, located about eight inches down the side and back of the truck, to strike him in the upper right leg.

In your first picture you can show a battery truck at a charging station, in the same position it was in on the day and time of the accident.

In the second picture, the truck can be shown in position, with the operator as he was at the time of the injury, his hand on the control lever as the control lever was positioned when be backed the truck into the charging location.

The value of reconstructing an accident becomes apparent, for the picture will graphically illustrate, first, the prime mistake the truck operator made when he backed into the charging station; second, exactly how he was injured; third, perhaps the reverse lever is in a poor location.

With this series you could stress the value of your operator performing according to accepted job standards. Or, conversely, you would see the value of setting up safe job standards on operations. Needless to say, after presenting an illustration of this type to management it should be relatively easy to explain what happened and also tell what is being done to prevent recurrence.

Now, say that some heavy bales of alpha pulp, which had been piled eight bales high in the storage area, have tipped over on a passing fork truck.

Prior to this, management did not feel it necessary to provide overhead guards on fork trucks for this type of operation. Photographs of the resultant accident help illustrate to top supervision the need for providing complete protection for the operator of fork truck in storage locations, or other unsafe conditions in a plant.

The use of photographs will prove invaluable in your accident prevention work. I would save photographs for selling a point which cannot be sold otherwise or to explain a situation which is difficult to explain without pictorial means.

In taking a photograph we must be sure to spend enough time in advance of the actual photographic work to decide what we are going to take, how we are going to take and why we are going to take it. In other words, if you cover the center of interest, if you take a picture which tells the story you want it to tell, which gives you the record which you would like to keep you will have a finished product which will prove invaluable in accident recording, accident analysis, and accident prevention.

Predict 'Revolution' in Aviation Safety

AIRPLANES which take off and land vertically or at a steep angle, yet reach high speeds in level flight with commercial payloads, will be available for production in three to five years.

Addressing civilian and military leaders in the field of flight safety, Harry F. Guggenheim declared that so-called vertical risers or steep-gradient planes "will not only revolutionize air safety, but also will provide a step forward in the economics of air transport and perhaps the social habits of the nation." He spoke at the sixth annual meeting of the Foundation and Executive Committees of the Cornell-Guggenheim Aviation Safety Center, national organization for the promotion of flight safety.

Steep-gradient planes are the most important of all the revolutionary scientific developments now taking place in aircraft safety, according to Mr. Guggenheim. He pointed out that one-third of today's airline accidents are due to high take-off and landing speeds of 120 miles an hour. Vertical-rising or steep-gradient craft will be able to land and take off when airports are completely fog-bound, while saving hundreds of millions of dollars in airport construction and providing greater accessibility to large cities.

Mr. Guggenheim observed that notable progress now is being made on three basic types of steep-gradient aircraft: (1) lift-supported craft, using devices to improve the plane's aerodynamic or "lift" qualities; (2) rotary-wing aircraft, which employ the helicopter principle, and (3) propulsion-supported aircraft, which use the power of the plane's engine to take off vertically, then convert the direction of thrust for level flight at high speed.

The promise which such aircraft hold for greater safety on America's air lanes was emphasized by Mr. Guggenheim's announcement that while the safety record of the U. S. scheduled airlines continued to lead the world in 1955, the lines nevertheless lost ground in comparison with 1954.

Last year there were approximately 10 deaths for every billion passenger miles flown on domestic airlines, he reported, compared with only one death per billion passenger miles in 1954. Thirty-nine, or one-fifth of these deaths, were caused by a bomb placed in an airliner, while the 156 others resulted from various accidents.

"Strong measures" must be taken against the growing hazard of mid-air plane collisions caused by a doubling of America's commercial air traffic since 1950, Mr. Guggenheim warned. He said that lack of funds is seriously hampering measures to control traffic at airports and along the nation's airways, despite the fact that adequate safeguards are available.

Mr. Guggenheim observed that despite the setback in aviation safety in 1955, "we can look forward with increasing confidence that air travel will soon become the safest of all means of rapid transportation."

Among the notable recent advances in air safety is the devel-

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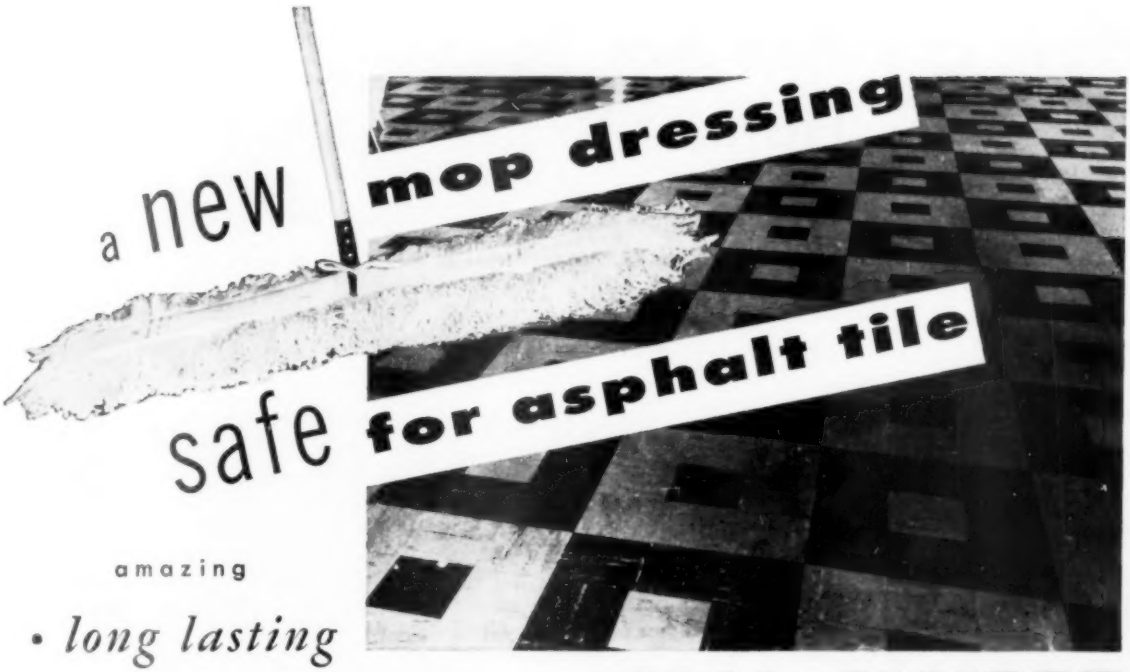

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  Will not freeze—yet has no flash point. No fire hazard in use. No spontaneous combustion of mop or dressing in storage.
- **Keeps Your Floor Slip-Safe**
  Keeps a safe floor safe—does not affect the non-slip properties of your floor.
- **Long-Lasting**
  Super HIL-SWEEP evaporates very slowly; stays in the mop. Sweeps entire area without re-treating mop.

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How Effective Are Your Flannel Board Presentations?

The finest presentation will fail if your slap-ons are too small to be read or if the material is not appropriate

By L. C. SMITH

TOO OFTEN the flannel board, which is a training aid, becomes a distraction and spoils what would have been a good presentation. Slap-ons that do not tie in with the talk and lettering and figures that cannot be seen are the worst offenders.

With some preliminary planning these faults can be eliminated. Using a standard Snellen eye test chart as a guide will help in determining the proper letter size. When materials are being prepared for use in a large room, where the audience may be as far as 200 ft. away, letters 3½ in. high should be used; for 100 ft., 1¾-in. letters; for 70 ft., 1½-in. letters, and for 50 ft., letters approximately 1 in. high are recommended as minimum requirements.

Plain, well-spaced letters with heavy outlines (¼ in.) show up best. Letters in black or dark colors are easy to see. Good lighting is essential, of course, and the viewing angle must be considered. A plain white background that does not reflect glare is also important.

Slap-ons should tie in with the material presented and should be the key points of the presentation — not some obscure point that happens to be easily illustrated. Also, ilustrations should be large enough to be seen by the entire audience.

L. C. SMITH is Senior Engineer, Industrial Department, National Safety Council.

FLANNEL BOARD presentation on falls, showing arrangement of materials. (Prepared by the Visual Aids Committee of the Metals Section, NSC)

Where a flannel board presentation is prepared by the training department or some other department to be used by a number of speakers it is advisable to include the following items:

1. The actual slap-ons, such as pictures, lettered legends, etc., numbered in order of use.
2. A guide sheet containing suggested commentary and hints for using the slap-ons.
3. An illustration of the slap-ons in place to guide the person making the presentation.

Following is a sample presentation of a typical flannel board presentation prepared by the Visual Aids Committee of the National Safety Council's Metals Section. All slap-ons are on a special paper which requires no flocking and readily adheres to any flannel board.

The accompanying illustration shows the slap-ons in place (except for the first two illustrations, which are removed as indicated below) and is used as a guide in positioning the material on the board.

FALLS

(Guide sheet for flannel board presentation. Use 3 x 4 flannel board or larger.)

NOTE: *The following information is a basic suggested guide for a short illustrated talk. Since the information is basic and covers the general categories of falls it may easily be expanded into a longer and more detailed presentation. Pertinent information concerning specific problems, or reports of actual falls may be used for this purpose. (The letters are 1½ in. high, the figures are on 8½ x 11 paper and are easily seen up to 60 feet.)* *—To page 86*

TWIN SAVINGS for YOU!

SBS-30 and SBS-60 solve ALL skin cleaning problems . . . are almost

IMPOSSIBLE TO WASTE!

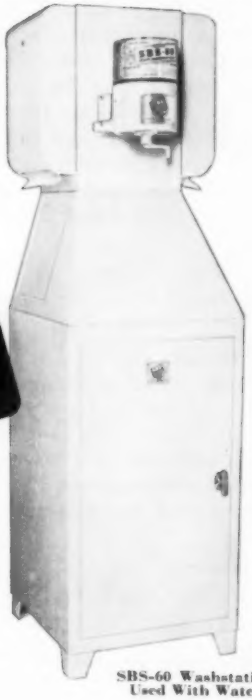
SBS-30

WATERLESS SKIN CLEANSER

SBS-30 Waterless Washstation
Used Without Water

SBS-60

CREAM DEODORANT SOAP



SBS-60 Washstation
Used With Water

PLANT-WIDE SATISFACTION AND SAVINGS ASSURED

Solve your skin cleaning problems *for good* by simply specifying SBS-30 Waterless Skin Cleanser and SBS-60 Cream Deodorant Soap. This combination of two new and modern cream-type skin cleansers will lick most any soil condition—anywhere—to the complete satisfaction of both men and women employees. Both of these dramatic new cleansers adhere to the hands . . . cannot run off like liquid, powdered or wasteful bar soaps. SBS-30 Waterless Skin Cleanser is recommended for the removal of almost "impossible" soils such as tar, paint, glue . . . SBS-60 Cream Deodorant Soap efficiently removes all ordinary soils found in factories, shops and offices. Dispensed from "throw-away" containers, you get savings of 30% . . . 40% . . . up to 50% with SBS-30 and SBS-60—it will pay your organization to get the facts today!

FREE FACTS FOLDER—giving all details . . . answering all your questions . . . explaining specific uses, by industry and plant area — yours for the asking. Simply write:

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Chemical By-Products Division, 302 Waller St., Saginaw, Mich.

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Chemical By-Products, Ltd., 8 Ripley Ave., Toronto 3, Ont.

Last year the total number of deaths from falls was 19,900. (Place illustration No. 1 on flannel board.) Only motor vehicle accidents, with a total of 36,000, killed more people.

You don't have to fall from a four-story building to get killed or injured. (Place illustration No. 2 on board.) Here are some of the places you should watch to prevent getting hurt. (Remove illustrations 1 and 2 and place on 3 and 4.)

Slips

Slips on floors caused by oil, water, wax and other slippery materials can be dangerous. When water is spilled it should be wiped up promptly. Spilled oil should also be cleaned up or covered with absorbent. Slip-resisting wax should be used on floors and work areas. Don't forget that icy patches are also dangerous. Either remove the ice or see that it is covered with a gritty substance to prevent slips and falls.

Trips

(Place illustrations 5 and 6 on the board.)

Trips over articles left on the floor can cause serious injuries. The object doesn't have to be as big as the box shown here (point to box). Sometimes a screw driver is just as dangerous. Play safe, practice good housekeeping and floors and aisles free of tripping hazards.

Stairways

(Place illustrations 7 and 8 on the board.)

A lot of people get hurt on stairways because they fail to use the handrail, stumble over articles stored on the stairway or are in a hurry. Take the fellow in this illustration, for example. Here's a perfect set up for a fall, especially if someone had stored a bottle or other object (place the bottle, illustration 9, in position) on the steps in a certain position. Let's keep stairways clean and watch our step when we use a stairway.

Ladders

(Place illustrations 10 and 11 on board.)

All ladders and scaffolding should be carefully checked before using. Ladders with cracked rails or rungs should never be used. Also, ladders should never be used in a horizontal position as a scaffold or runway. When placing a ladder against a wall or other vertical surface be sure you have the right slant. If your ladder is slanted too much you may be headed for trouble. (Place figure 12 on board with the foot of the ladder beyond the mark.) If the ladder is too straight you stand a good chance of falling over backward. (Place ladder with foot inside mark.) Always place the ladder with the base about one-fourth the length of the ladder away from the vertical support. In other words, assuming this is a 12-ft. ladder, the base should be 3 ft. away from the wall. (Place ladder on mark.)

If you are going to use a scaffold make sure it is properly constructed. Check with your supervisor before you use it. Most codes require railings on scaffolds over 12 ft. high, but it is a good policy to put railings on shorter scaffolds.

Loading Platforms

(Place illustrations 13 and 14 on board.)

When working on loading platforms and other elevated areas make sure you look before you step. The fellow in this illustration is due for a fall and perhaps a trip to the hospital. It just doesn't pay to be so heedless. Make certain dock plates are in place and securely anchored. If you are using hand trucks watch the edges and inclines. Keep the truck ahead of you on inclines.

Improper Stance

(Place 15 and 16 on board.)

When lifting it's easy to get hurt if you lift with a bent back or when off baalnce. If you have to work on a piece of equipment like the fellow shown here make sure you have the proper equipment, don't try to hurry the job by climbing on top of the most convenient object in sight. Be sure you have a good platform to work on, even if it takes a little more time to erect one. Don't lean over from ladders either. In other words whenever you have to apply pressure be sure you have both feet firmly planted on a good solid foundation and keep your feet spread so you won't topple over if your weight is suddenly shifted.

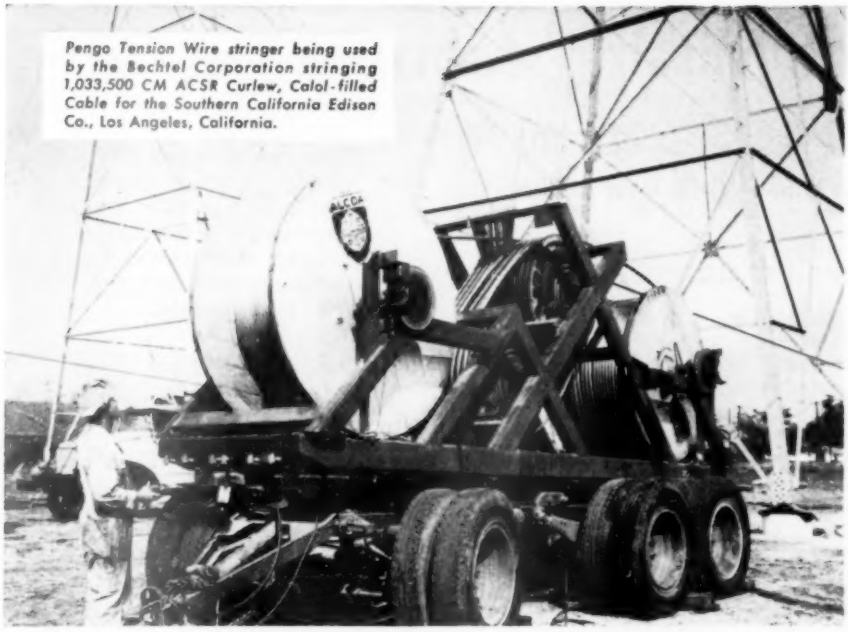
Hitching Rides

(Place illustrations 17 and 18 on board.)

Hitching rides on hand trucks, power trucks, railroad cars and similar vehicles is inviting trou-

—*To page 104*

"While I've been waiting for you I think I've located the trouble."



Pengo Tension Wire stringer being used by the Bechtel Corporation stringing 1,033,500 CM ACSR Curlew, Calol-filled Cable for the Southern California Edison Co., Los Angeles, California.

The latest method of stringing conductors

- ***Safest, most economical for transmission, distribution and even secondary lines.***
- ***Its greatest savings are effected when stringing over and through energized circuits... by far the safest, too!***

Operation of the PENGO Tension Wire Stringer is almost unbelievably smooth. Because the tensioning is done on the Neoprene-Lined Bullwheels rather than on reels, conductor damage from the reels has been eliminated entirely. Due to the Neoprene lining of the Bullwheels, it is possible to use a full range of wire sizes to maximum groove capacity, which, in the case of the Model 6000-WS shown in picture, is Pheasant or 1⅜" diameter.

SMOOTH, POSITIVE CONTROL OF CONDUCTOR TENSION can be maintained at all times regardless of model or size of PENGO Tension Wire Stringer used. The large, specially designed PENGO disc brakes are mounted away from the Bullwheels to assure dissipation of the heat generated by the continuous braking action and prevent transmission of the heat to the Bullwheels.

In addition to the model shown in the picture, all series are available in low-slung trailer mounts for mountain work with separate easy-loading reel trailers.

List your requirements and send for descriptive literature and prices.

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Santa Clara, California DEPT. E
Please send me more information on the new Pengo Tension Wire Stringer.
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Made by the makers of the World-Famous
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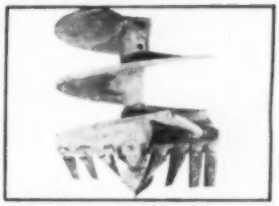
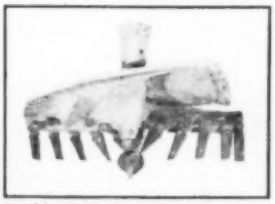
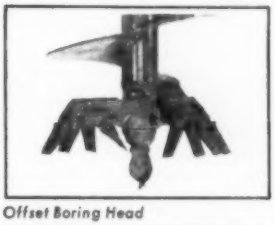


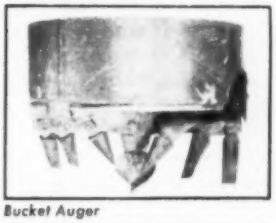
24 inch Heavy Duty Flight Auger



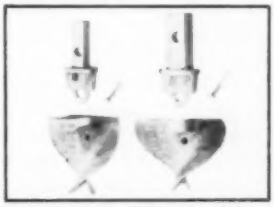
Double-Helix Heavy Duty Auger



Offset Boring Head

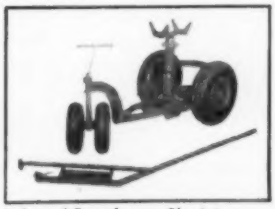


Bucket Auger



Screw Bit for Small Diameter Holes

Pulling Eye



Pole and Transformer Chariot

The Cost of Missing Men

Hidden costs can often escape accounting and absenteeism is one of the most serious

By JOSEPH E. ALDERDICE

LEADERS IN GOVERNMENT and private industry have estimated that 65 million workmen will be required this year to keep production at top levels. Annually the time of approximately 2.6 million workmen is lost because of accidents off-the-job and on-the-job—a loss of 4 per cent of the total man power required for production. Many of the injured persons are highly trained specialists and key men, the loss of whose services is even more serious than the percentage figures indicate.

Accident prevention today is a joint problem of Federal and State Governments, insurance companies, management, labor and other agencies such as the National Safety Council.

Employee accidents may be prevented by controlling the personal defects in hazardous employment through job placement, by preventing unsafe acts through training to instill safe work habits, and by eliminating mechanical faults in equipment and structure.

In view of the costliness of accidents and the wide acceptance by industry of its responsibility for such accidents and their costs, why is there still some management resistance to an organized safety program? This must be due to the fact that, in great part, such management is not aware of the seriousness and costliness of accidents within its own organization.

To illustrate—let us remember the mother admonishing the child not to touch the gas flame on the kitchen stove for to do so will cause pain—the child not being fully aware of the painful results does put its finger into the flame and the subsequent screams prove that the child is now fully aware of that danger.

So too we find that the management that opposes a safety program is not fully aware of the costliness of accidents and some become aware of such costliness when they are painfully burnt through increased and increasing losses—losses which adversely affect any firm in today's highly competitive retail business.

In the chain store industry we also have customer accidents to reckon with; when we add together the customer and the employee accident costs—when we truly account for them—then we feel that any progressive, aggressive management will promptly accept responsibility for prevention of accident losses.

Is your management fully aware of the entire cost of accidents? Does management know that accidents result in:

1. Interference with planned operations.
2. Damage to equipment.
3. Damage to material or merchandise.
4. Injury to employees.
5. Injury to customers—claim settlements, loss of goodwill, etc.

These are the five simple obvious loss factors readily seen, but how about the extra, sometimes hidden, costs such as benefits to an employee other than legal compensation? How about other employees working overtime to fulfill the duties of the absent employee? How about hiring and training a replacement? These too can be evaluated and added to item No. 4 above.

If there is no total awareness of all of the costs involved there can be no decisive management effort toward promotion of safety for employees and customers; therefore costs will rise and a valuable customer and employee relation weapon is left unused.

In these days of intense competition no one can safely ignore one of the most important weapons in the armory of competitive business — a functioning safety program backed energetically and enthusiastically by top, middle, and lower management.

JOSEPH E. ALDERDICE is Safety Engineer, Bronx Safety Department, Eastern Division, Great Atlantic & Pacific Tea Company.

Announces Five Year Federal Airway Plan

RELEASE of a five-year program developed by the Civil Aeronautics Administration of the Department of Commerce for a modernized Federal air traffic control system designed to keep pace with the requirements of the jet age has been announced by Secretary of Commerce Sinclair Weeks.

The far-reaching program, submitted to Congress by Secretary Weeks, involves the expenditure of $246 million during the next five years for new electronic installations, including radar, peripheral communications, navigation and air traffic control equipment and other safety measures on the nation's airways.

The program is described in the CAA report, "Federal Airway Plan, Fiscal Years 1957-1961," issued by C. J. Lowen, Administrator of Civil Aeronautics.

"When enabled to carry out the program," Administrator Lowen said, "the CAA will feel that it can better discharge its statutory responsibility to provide a common civil-military system of air navigation, communications, and traffic control. However, aviation is always subject to rapid progress and change. The legitimate civil and military demands on CAA will not abate short of having aircraft flying safely close together and landing in rapid order regardless of weather conditions."

Under Secretary of Commerce for Transportation Louis S. Rothschild said, "This CAA plan —comprehensive though it is—is but a cornerstone from which will be developed additional programs to keep the nation's air traffic control capabilities abreast of the fast growing demands of tomorrow's aviation. The long-range require-

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ments of American aviation are currently being reviewed by the President's newly appointed Special Assistant for Aviation Facilities, Mr. Edward P. Curtis."

Under the CAA program radar's searching fingers will reach out more than a hundred miles into the sky to pinpoint the jets and other aircraft that will throng the airways of 1960. The five-year program was drawn up to keep pace with very substantial increases in air traffic, which CAA forecasts will continue throughout the coming decade.

It lists the number, type, and cost of electronic devices which must be installed to enable CAA traffic controllers to keep civil and military planes moving with speed and safety. The plan has been endorsed by all civil and military agencies of the government through the Air Coordinating Committee. It was submitted to the Congressional appropriations committees in January.

Giving the controller "radar eyes" as well as his present "radio ears" is emphasized in the plan. It proposes putting radar of the short-range, surveillance type into 44 additional airports; long-range radar with direct pilot-controller communications into 24 additional air route traffic control centers; a new device known as the radar beacon at 134 locations; and 20 airport surface detection equipment radars to control ground movement at congested terminals.

Other equipment and facilities proposed for installation over the five years starting July 1, 1956, include 40 additional airport traffic control towers, 383 very high frequency omnidirectional radio ranges (VOR) with associated distance measuring service; 28 instrument landing systems; 49 standard approach lighting systems; 106 lead-in lighting systems; and sequence flashing lights at 32 high intensity approach light installations.

Important among the proposals is the placement of facilities so that CAA can provide high altitude control of all airspace where civil and military jet aircraft will operate. Business, private and other general aviation aircraft will benefit from the plan's provisions for nationwide coverage of airways down to 700 feet with navigation aids.

Facts About Metal Fume Chills and Fever

By WILLIAM L. LEA, Ph. D.

EXPOSURE to an excessive concentration of freshly formed zinc oxide fumes in air produces a startling or dramatic sequence of symptoms. Oddly enough, the severe symptoms have no sequel.

Following the exhaustive respiration intake of zinc oxide metal fumes, a feeling of tightness in the chest or constriction of the throat occurs. This first symptom follows the exposure quite closely. In fact, it often starts while the employee is still at work.

Within an hour or so later, a severe headache develops. The severity of the headache is such that it can rightly be termed a "sick headache" and is accompanied by a total lack of appetite.

Chills Follow Headache

Chills set in on the heels of the headache, varying from moderate to teeth chattering, depending upon the magnitude of the exposure to zinc oxide fumes.

By the time this stage is reached, the exposed individual is usually at home and in bed since the first symptom usually does not occur until near the end of his eight-hour shift.

After sleeping a few hours, he is apt to wake up with a high fever and perspire profusely. At the end of eight hours or more of sleep he awakes, arises, and feels no more than the usually "dragged out'" feeling which accompanies any fever.

He is perfectly fit to go back to work and, in fact, he may return to work the following day and on the same job receive the same exposure to zinc oxide fumes but this time exhibit no symptoms.

The lack of symptoms upon succeeding exposures is due to the development of a temporary immunity. The theory is that the freshly formed zinc oxide alters or kills some of the tissue cells lining the respiratory tract and that symptoms are the reaction of the body not to zinc oxide but to the foreign or altered proteins from the tissue cells.

To neutralize these foreign proteins, the body generates an ample supply of chemicals called antibodies and thus immunizes itself against the foreign proteins.

Unfortunately, these antibodies do not persist in the body more than a day or two in most individuals, if there is not a continued exposure to zinc oxide fumes. Consequently, if an individual remains away from work for two or three days, he loses his immunity to reaction to excessive exposure to zinc oxide metal fumes.

Leads to 'Shakes'

This short-lived or temporary immunity gave rise to the term "Monday shakes" in the old days of the brass foundry industry. Lack of exposure for two days over the weekend caused many brass foundry employees to lose the immunity acquired as a result of exposure to zinc oxide fumes from molten brass during the previous week. Loss of immunity produced the symptoms Monday night and resulted in the body producing a new supply of antibodies to provide immunity for the rest of the week.

—*To page 106*

DR. WILLIAM L. LEA is Director, Wisconsin State Board of Health, Madison, Wis. This article has been reprinted from the Newsletter of the Wisconsin Council of Safety.

ROCKWOOD ALL-PURPOSE FOAM can be used to blanket fires in alcohols, ethers, esters, ketones, as well as petroleum products.

Now... one FOAM extinguishes both petroleum and alcohol fires

New Rockwood All-Purpose FOAM does the work of two products. Simplifies training of fire fighting personnel and cuts down fire protection inventory. Rockwood All-Purpose FOAM quickly puts out fires in alcohols, ketones, ethers and similar water soluble materials as well as petroleum derivatives.

Rockwood All-Purpose FOAM reduces fire protection equipment for fire departments and plants which must deal with more than one type of fire hazard, and is ideally suited for Rockwood's SpotPROTECTION or fixed piping systems.

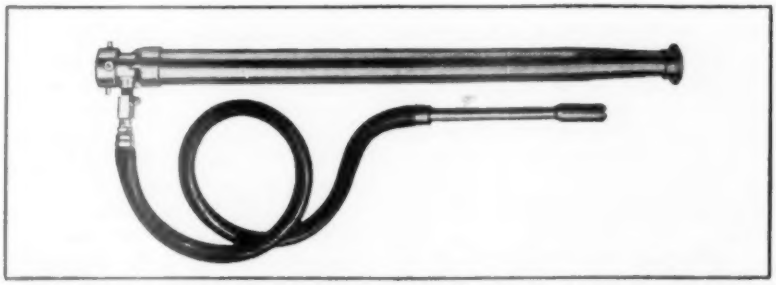
Rockwood All-Purpose FOAM is well suited for use by municipal fire departments, oil refineries, distilleries, chemical and other industrial plants.

Rockwood All-Purpose FOAM liquid with standard Rockwood FOAM nozzle provides the simplest, fastest means for extinguishing alcohol, solvent fires. The FOAM nozzle attaches to a hose connected to the discharge gate of a fire truck, hydrant or interior hose station.

Specify new Rockwood All-Purpose FOAM, put this versatile fire fighter to work for you.

ROCKWOOD SPRINKLER COMPANY

Engineers Water . . . to Cut Fire Losses



1½" STANDARD FOAM NOZZLE AND PICK-UP TUBE discharges 60 g.p.m. at 100 p.s.i. Range: approximately 55 feet.

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Please send me your illustrated booklet on Rockwood fire fighting products.

Name.....

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A Personal Affair

—From page 23

about the meeting. Some of the Frisco officials didn't think much of the idea either.

There were only 85 persons present, which may have been due to a cold, wet night as well as to apathy. But most of those who came left with the idea that maybe the railroad was really trying to do something more than reduce claims. Emphasis on off-the-job safety appealed to them and they were pleasantly surprised at the lack of "preaching."

Nearly seven years later another meeting was held at Thayer. The attendance of 833 filled the town's largest hall and more than 100 were turned away. Even more significant than the attendance was the changed attitude. The skeptics had been converted.

On April 6 this year more than 5,500 employees and families overflowed Shrine Mosque Hall in Springfield, Mo., for an elaborately staged evening of safety education interspersed with entertainment.

Other big turnouts just as impressive in ratio to population, are a familiar part of Frisco family life over the entire system today. During 1955 some 47 family rallies were attended by 22,467 Friscoans, and the system-wide scope of the program increases each year.

The family safety meetings have become an institution in many online Frisco communities. Safety committeemen and other employees active in safety at the local level are devoting countless voluntary hours promoting safe practices, not only to employees but to the public as well through schools and civic groups.

Conspicuous among these missionaries of safety is Ben Terry, yardmaster at Henryetta, Okla. He visits schools, handing out safety literature to children, attends innumerable meetings, gives talks before local groups in three states, and writes frequent letters to editors of newspapers in the area.

Writing to the vox pop column of one of these papers, a correspondent who signed himself "Safety Last" had this to say:

"Steve Allen may come and Steve Allen may go, but Ben Terry goes on forever."

With a relatively small safety department staff, an incredible amount of safety activity is generated. The whole program, Mr. Hamilton emphasizes, generates its own motive power. That power comes from local employees personally, not from departmental edicts nor efforts merely to please supervisors.

"The safety department functions mainly as an advisor to the local safety committees," says Mr. Hamilton. "We give advice when asked, but we certainly do not stand alone as any fountainhead of advice."

The committeemen, chosen by the employees themselves, are found in all shops and terminals and at every division headquarters. Many Frisco committeemen are rising to prominence in outside safety work, such as with the National Safety Council and the Association of American Railroads.

A summary of other safety activities during 1955 shows why the Frisco has been showing a steady reduction in casualty rates until it is now among the nation's top railroad in safety performance as well as a pioneer and the principal exponent of family participation.

A total of 6,141 impromptu and regular meetings were held on the job and attended by 84,976 employees. Conducted by a safety supervisor or committeeman, or a work supervisor, the meetings covered unsafe practices and special safety problems.

A total of 131 accident prevention and better service meetings were held, with 2,862 attending. These meetings, conducted by the superintendent of safety, are pri-

—To page 125

Tribute to a Safety Department

IN HIS COLUMN "Chat with the Editor" in *All Aboard*, the Frisco's employee magazine, Editor Robert D. Kraehe expresses the appreciation of all men and women in the Frisco family for its safety leadership.

This month *All Aboard* brings forth the Safety Department, safety committeemen, and so many other employes supporting their safety program with concrete actions, to take a bow. We think these people are driving behind one of the most energetic industrial safety efforts in the country, and certainly tops among railroads.

All Aboard must admit to incurable prejudice in favor of the works of Frisco men. However, their safety activities recorded in this issue speak more eloquently of them than can this corner. The sheer amount of safety work on the Frisco is, in itself, rather amazing.

For those interested in statistics, the Frisco's casualty ratio last year was 6.21 per million man-hours worked. This is somewhat higher than ratios in recent years, but still a far cry from the 10.75 ratio of 1947 when the current safety program was begun. Three fatalities and 193 injuries went on the record last year as compared to 17 fatalities and 444 injuries in 1947.

The measure of a safety program can hardly be confined to fluctuating statistics that merely tell how many accidents happened. More important is, What's being done to raise the number of those UN-recorded "accidents" that could have happened, but didn't?

If your friend had an accident, would you comfort his wife by telling her how low the Frisco's statistics were in his particular field of misfortune last year? We doubt it. We think she is more interested *now* in helping her husband to help himself return home from his shift safe—perhaps, tired, but not "dead" tired.

We think she is interested in knowing that Frisco men like Ben Terry, the tireless yardmaster at Henryetta, devote countless off-duty hours crusading for safety with the school kids.

We think a Frisco wife cares that her husband's railway works hard at safety —that it sparkplugs its program with men prominent in their field. (Safety Superintendent R. P. Hamilton and Safety Supervisor F. S. Harkey, for example, will represent the Frisco at the U. S. President's Conference on Occupational Safety in Washington, D. C. This conference will highlight the first national observance of "Job Safety Week" May 13-19.)

Most of all, we think a very special Frisco wife wants to hear from you: "Yes, honey, I really do keep safety in mind for myself—and the guy next to me."

MICRO *precision switches*

...THEIR USE IS A PRINCIPLE OF GOOD DESIGN

MICRO SWITCH Trip Control installation. Each operator must operate two switches before press will work

MICRO SWITCH Trip Control speeds production, provides safety to operator and equipment

Whether a press is operated by one, two, three or four or more operators, MICRO SWITCH Trip Controls make sure it cannot operate until every man is at his safety station.

Increased production comes from:

- Instant electrical response
- Feather-touch operation
- Easy control changes
- Decreased operator fatigue

Increased safety comes from:

- Two-hand operation
- Cannot be "cheated"
- Inoperable if any component fails
- Interlock prevents power stroke while changing dies.

New machines may be made safer and more versatile by the use of MICRO SWITCH Trip Controls. Old equipment may be electrified and modernized to bring productivity up to today's requirements.

A Trip Control installation consists of only one compact control box, two hand switches per operator, one foot switch per operator (if desired), lock-out switches (if desired) and clutch-actuating equipment if machine is not power-clutch actuated.

Hand switches have snap-action contacts, which require only short, easy actuation. Both must be operated within a set time interval. The compact control box is easy to mount. A lock on the cover permits only authorized personnel to make control changes. A hinged, dead-front panel inside isolates all current-carrying components.

MICRO SWITCH Trip Controls have wide range of uses

These controls offer a choice of desirable single-stroke control for positive mechanical clutch machines and automatic cycling control for friction clutches and hydraulic and pneumatic equipment.

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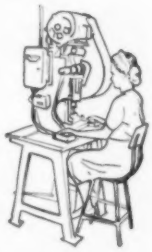

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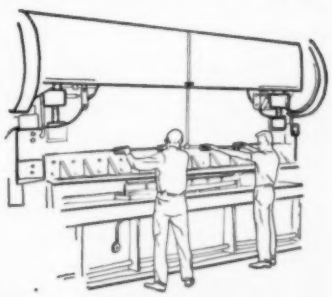

Makes operation of large presses safe and less tiring. Any number of operator stations may be "wired into" the control circuit.

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NSC Labor Conference Elects Officers, Plans Program

THE EXECUTIVE COMMITTEE of the Labor Conference. (Seated (l. to r.): John R. Kumpel, Harry Read, P. L. Siemiller, Lloyd Utter. Standing (l. to r.): John R. Rooney, Fernando J. Castro, Frank Burke, Al E. Brown, J. George Eichhorn, Rodger Coyne. Not shown are Jesse Clark and Charles Ferguson.

THE Labor Conference of the National Safety Council is now a functioning operation. At its organizational meeting in New York, April 16, the Conference elected officers; adopted a statement of functions, scope, and policy, and appointed five standing committees.

Conference officers elected are chairman, P. L. Siemiller, general vice-president, International Association of Machinists, Chicago, and vice-chairman, Lloyd Utter, director, Industrial Health and Safety Division, Compensation and Safety Department, United Automobile Workers, Detroit.

Harry Read, assistant to the secretary-treasurer, American Federation of Labor and Congress of Industrial Organizations, Washington, D.C., is the Council's vice-president for labor.

An Executive Committee, consisting of these three officers; the chairmen of the five standing committees, and five other members of the Conference, was elected.

The following committee chairmen were elected:

Congress Program — Frank Burke, director, Safety and Health, United Steelworkers of America, Pittsburgh, Pa.

Publications—John R. Rooney, secretary-treasurer, Ohio C.I.O. Council, Columbus, Ohio.

Newsletter—Harry Read.

Membership—Jesse Clark, president, Brotherhood of Railroad Signalmen of America, Chicago.

Congress Smoker—J. George Eichhorn, grand lodge representative, International Association of Machinists, Chicago.

The balance of the Executive Committee was elected as follows: Fernando J. Castro, director, Bureau Industrial Safety and Accident Prevention, Department of Labor, San Juan, Puerto Rico; John R. Kumpel, safety and compensation representative, United Rubber, Cork, Linoleum, and Plastic Workers of America, Akron, Ohio; Al E. Brown, vice-president and west coast regional director, International Brotherhood of Paper Makers, Portland, Ore.; Charles Ferguson, director, Safety Division, United Mine Workers of America, Washington, D.C.; Rodger Coyne, director, occupational safety and health, International Union of Electrical, Radio, and Machine Workers, Washington, D.C.

Functions of the Labor Conference were established as follows:

1. To serve as a medium for voluntary coordination of the activities of labor organizations in all phases of safety.
2. To work with other Conferences of the Council.
3. To guide program development and operation by the Council staff.

The Conference will serve as "a continuing agency for the development and maintenance of sustained interest and activity in accident prevention on the part of labor groups" and as a "medium for the exchange of information and for group planning."

Mr. Read stated that the National Safety Council will produce literature for unions, undertake programs to stimulate the interest of workers, and participate in occupational, traffic, and home safety activities.

Other activities will include:

—Encouraging labor organizations to develop safety specialists and to provide safety training for full- and part-time officers and staff members, stewards and members of safety committees.

—Maintaining an inventory of safety activities of labor unions and disseminating findings.

—Developing and initiating methods for furthering the practical understanding of accident prevention by unions and encouraging membership in NSC.

—Encouraging voluntary coordination between all groups.

—Stimulating accident prevention activity by labor organizations at all levels.

W. G. Johnson, assistant general manager, National Safety Council, a guest at the organizational meeting, spoke briefly on the history of the Council with particular emphasis on the role of labor in the Council. In the mid-thirties, he said, labor began participating in a small way and in 1943 top labor leadership, representing AFL, CIO, and the railroad groups, became represented on the Council's Trustees and Board of Directors.

The United Mine Workers has been particularly active in the Coal Mining Section, Mr. Johnson said. Others now having labor representation on their executive committees are the Wood Products and Construction Sections.

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INDUSTRIAL HEALTH

Abstracts of current literature on Occupational Hygiene, Medicine, and Nursing

By F. A. Van Atta, *Industrial Department, NSC*

UNQUESTIONABLY, the most important industrial health development during the month of April was the joint meeting of the American Association of Industrial Dentists, the American Association of Industrial Nurses, Inc., the American Conference of Governmental Industrial Hygienists, the American Industrial Hygiene Association and the Industrial Medical Association which was held in Philadelphia this year.

The health page for this month is made up exclusively of reports from papers presented at the meetings of the American Industrial Hygiene Association. Papers from some of the other associations will be abstracted later.

Data on Poisons

Interpretation of Experimental Toxicologic Data for Industrial Hygiene Use, by Frank Patty.

THE INDUSTRIAL HYGIENIST is not directly interested in experimental toxicologic data, because what he is actually interested in is the hazard in use rather than the toxicity. He wants to know the lethal dose by ingestion, which is the standard datum of the toxicologist, but he also wants to know the lethal dose by inhalation and by skin absorption. In most industrial situations, these routes are more apt to be encountered than the ingestion route.

If information on the lethal dose by inhalation is to be of practical value, it is also necessary to have information on vapor pressure and generally on relative density of vapor air mixtures likely to be encountered in industrial practice.

To estimate the hazard from skin contact, it is necessary to know the rate of absorption through the skin by experimental animals and also the effects of exposure to the material directly upon the skin of experimental animals, and it is preferable to also know its effects upon the skin of people, either by observation or by experiment.

To estimate the probable hazard, it is also well to know the solubility of the material and body fluids and the effect of particle size of the material on the soluability and body fluids and tissues. If it is apt to be used in solution in solvents relatively insoluble in the body fluids, the coefficient of partition between the solvent and the body fluids and tissues is also necessary for a knowledge of the actual exposure of the body tissue.

To follow the effects of exposure in a normal industrial environment, it would be desirable to know the metabolic rate of the material so that the excretion of a metabolite or some other biologic test can be devised to indicate excessive exposure of an individual in advance of any measurable harm.

The toxicologist should also, preferably, be able to indicate to the industrial hygienist whether the response of several animal species are very similar and whether it is reasonably safe to translate the results of animal exposures in terms of exposure to man or whether there are wide specie variations in response which would make this translation unusually unsafe.

It is also important to know if there are warning signs of absorption of the material without serious harm so that one can be dependably warned of a situation which requires correction or whether the development of poisoning is simultaneous with or very close to the development of signs of absorption so that a case of outright poisoning and serious or irreparable injury can develop suddenly and as a complete surprise to everyone concerned. It is only by coming up with correct answers to this rather complex series of questions that safe handling of chemical materials can be achieved.

Radioactive Wastes

Power Reactor Waste Disposal, by G. Hoyt Whipple.

DISPOSAL of the waste from a power reactor is complicated by the radioactivity and by the extreme and long lived toxicity which are typical of reactor waste products. These properties of the materials make it very difficult to retrieve the situation if an error is made in their handling, so that they must be handled in a very conservative manner.

In addition to these properties, there is also the possibility, which is known to be a condition in some cases, that biological materials may concentrate some of these waste products from their environment. This makes it unsafe to release significant quantities of any of the radioactive wastes to the environment with the exception of the inert gases which cannot be biologically concentrated.

The present practice is to store the wastes in underground tanks in most instances. This is obviously not a solution but merely a postponement of the problem.

There have been a number of experiments and the fixation of such wastes by incorporating them into the structure of concrete, clay, or glass. If anything of this sort is done, the rate of release from the storage material must be extremely slow.

The problem is not solved by utilization of the waste as sources of radiation, heat or rare elements. The only change such utilization makes is that it may

There's a little bit of Wausau in "sunny California"

"I talked with Guy F. Atkinson, chairman of the internationally known California construction firm which has built among others, the huge McNary Dam and Pasadena's Arroyo Seco Bridge (shown under construction above).

"If anyone should know the importance of safety it would be Mr. Atkinson, who says: 'When I started in the construction business, there was no such thing as workmen's compensation or safety engineers. When a man got hurt, a company took care of him and his family. So we had two things to worry about—our job and the man out of a job.

" 'Now, Employers Mutuals has taken this latter concern out of our minds. Their safety engineers consult closely with ours, and help us to make accident prevention as much a part of our job as blueprints, bulldozers and concrete. And Employers Mutuals pays us substantial dividends for savings made possible thru accident prevention.' "

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A WAUSAU STORY

by EDWARD PRENDERGAST
Feature Writer,
Los Angeles Herald Express

"How far is it? . . . a little over two thousand miles from the North Woods of Wisconsin here to our Pacific Coast. Yet, as I found out, Employers Mutuals does business here in the same warm, personal way as among its Wisconsin neighbors at home. The friendliness of Wausau folks is really catching!

"Until I took on this assignment, I didn't know any more about Employers Mutuals as a company than you might. I'd heard they had a reputation as 'good people to do business with'. But it wasn't until I got out and met a few Employers Mutuals people and their policyholders that I began to get an idea that here are people with a very unusual approach to insurance problems. They seem to have a knack for getting through to the heart of the problem . . . the human side. They emphasize fairness, they *listen*, they have a strong belief in preventing accidents rather than just waiting for them to happen. These pictures and captions tell you the story."

"Playing with toys . . . to save lives. Imagination can do a lot to make people safety conscious. Here's a good example. The Frito Company's Western Division wanted some dramatic way of impressing safety on the drivers of all company cars and trucks. With the help of Paul Kacher, an Employers Mutuals' safety engineer, they found a unique solution. Once a month on Saturday mornings a Frito committee plus Mr. Kacher (who volunteers his time) reviews all company vehicle accidents, if any, during the past month. Each accident is carefully reconstructed on a board with streets marked—using toy cars. The committee and Mr. Kacher try only to determine the *cause* of an accident and how it could have been prevented. It's surprising the *positive* thinking that results from these sessions. Frito's safety record proves it!"

Employers Mutuals *of* Wausau

"Good people to do business with"

help to pay the disposal costs. The material still must be disposed of.

The present indication seems to be that handling of the wastes from power reactors will probably consist of the following steps:

1. Separate and store the inner gases until their release to the atmosphere is not dangerous.
2. Concentrate the other waste to a solid or concentrated or liquid form and store them from 10 to 20 years until they have cooled off enough to be handled further.
3. Separate the strontium and cesium and store them further.
4. Fix the remainder in concrete, clay, glass or some other extremely inert material and bury in the ocean or in dry ground away from ground water supplies.

Aromatic Hydrocarbons

Aromatic Hydrocarbon Production Related to Incomplete Combustion, by Bernard D. Tebbens, Jerome F. Thomas, and Mitsugi Mukai.

THE EXPERIMENTAL evidence has shown that condensed aromatic hydrocarbon can be produced during the incomplete combustion of gaseous hydrocarbon fuels. A literature survey also showed that these same combustion products could be found after burning liquid or solid hydrocarbon fuels, although there was relatively little information on the identification of the compounds produced or on the burning conditions.

This indication that aromatic hydrocarbons are regularly produced during combustion of carbonaceous materials is supported by the fact that they are generally associated with the atmospheres of inhabited areas. There are a number of examples of carcinogenic compounds among this class having condensed aromatic nuclei.

For this investigation, a special furnace and burner were used for the combustion of gaseous hydrocarbons including natural gas, butane, butene-one, acetylene, and butadiene. The nature of the products of combustion was determined by means of paper chromatography, and it was possible to demonstrate the presence of such materials as pyrene, benzpyrene, and dibenzanthracene. The same products were obtained regardless of the fuel used, but the relative amounts appear to differ for different fuels.

The total amount of hydrocarbon produced is a function of the excellence of combustion, and large amounts are produced if the combustion is very incomplete and smoky. Air samples taken in the city on smoky days show the same type of chemical compounds as those found in the laboratory investigations of incomplete combustion.

Atmospheric Diffusion

Field Studies of Atmospheric Diffusion and the Structure of Turbulence, by H. E. Cramer and F. A. Record.

THE RELATIONSHIP between the disbursal of gases or particles in the lower atmosphere and the nature of the turbulence of the air were investigated by releasing a tracer, usually sulfur dioxide gas, continuously from a point source at ground level and sampling it at various points.

The sampling network consisted of a large number of midget impingers located two meters above the ground along with three concentric arcs about the source, the arcs having radii respectively of 50, 100 and 200 meters. The sulfur dioxide was released for 10-minute periods, and samples were taken continuously. The resulting concentration of sulfur dioxide in the impingers was measured by conductivity.

Meteorlogical measurements made in the same area at the same time (micrometeorlogical measurements) included the windspeed and air temperature at four levels on a 40-ft. tower. The wind speed was determined by cup anomometers and the air temperatures by ventilated thermocouples.

In addition to the wind velocity, the wind direction in both the horizontal and vertical planes were determined at a height of two meters above the ground. The directions were determined with fast response bivanes.

The observations indicated that the down wind concentrations could largely be explained by the variation in horizontal wind direction. Under atmospheric conditions of thermal instability, the reciprocal of the standard deviation of horizontal wind direction was found to be a predicter of the peak concentration at all three distances from the source. Under conditions of temperature inversion, the same relationship was noticeable only at 200 meters from the source.

Ozone Toxicity

Experimental Evidence for Variation in Ozone Toxicity, by J. L. Svirbely, B. E. Saltzman, and H. E. Stokinger.

THE TOXICITY of ozone has been the subject of controversy for a number of years since it does not seem possible for investigators in different laboratories to get concordant results on its toxicity in animal experimentation. It is now receiving increased attention because it has been demonstrated as an important component of the Los Angeles smog.

Because of this, the staff of the Public Health's Service Occupational Health Field Headquarters attempted to re-examine the toxicity of ozone for laboratory animals to see if they could find some factors which might account for the discrepancies from the results of various investigators in the past. One of the explanations has been the effects of oxides of nitrogen, but other factors were sought on this occasion.

One of the findings was that the toxicity of the ozone seemed to depend on the type of ozone generator in which it was produced. The amount causing 50 per cent mortality in adult rats and mice exposed for four-hour periods was 3.8 parts per million for mice and 4.8 parts per million for rats, when the ozone was generated by passing dry compressed air through a generator with a pheno-formaldehyde plastic dielectric. When the ozone was generated in an ozonizer with a mica dielectric, the concentration causing 50 per cent mortality in a 24-hour period was 1.4 parts per million for mice and 2.4 parts per million for rats.

The authors suggest that the difference in toxicity is due to the presence of appreciable quantities of free radicals of relatively short life, such as HO_2. They made a test of this postulate by

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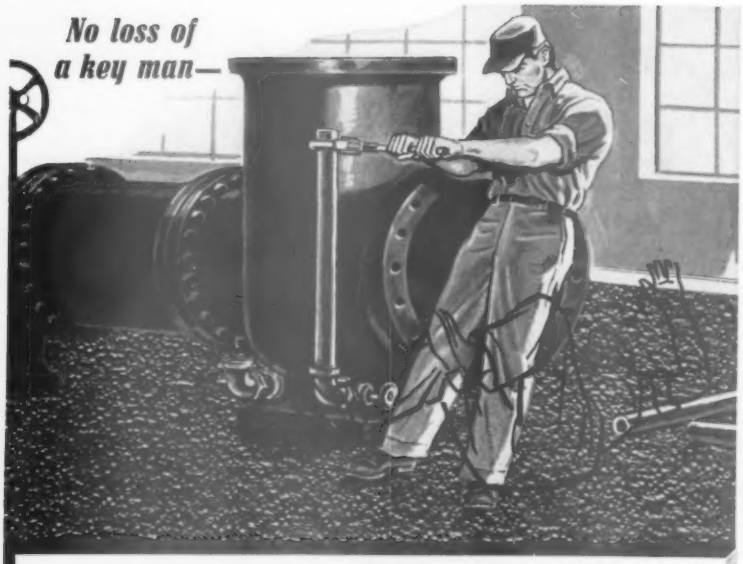

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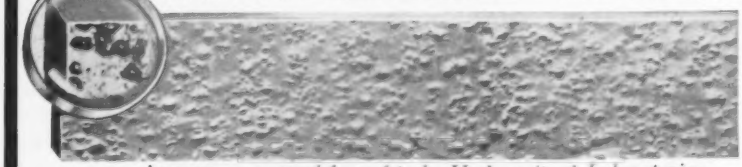

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adding hydrogen peroxide to the ozone in measured amounts and also be aging the ozone prior to use on the experimental animals. They feel that these tests indicate the presence of highly oxidizing materials of short duration, in other words, materials other than ozone.

Gases From Welding

Nitrogen Dioxide and Ozone Potentials in Welding Operations, by H. Fay, P. H. Mohr, and P. W. McDaniel.

THE QUESTION of potential hazard from oxides in nitrogen and from ozone in welding, and in particular in arc welding, has been the subject of investigation and controversy for a number of years. The present experimental study was an attempt to evaluate both the concentrations of these materials at welding operations and the methods available for determining them, using a number of welding conditions and situations which would typically be found in industrial or construction operations.

Nitrogen dioxide is the only oxide of nitrogen which seems likely to be significantly toxic in welding operations and was the only one which was determined. It was determined that oxyacetylene, metal arc and several types of inert gas shielded electrode welding operations. Ozone was determined at the shielded electrode operations only.

Nitrogen dioxide was found at all of the welding operations in quantities which varied with the conditions of the job. It was not found very far from the actual point of welding, and at arc welding operations was found in concentrations significant for health purposes only within six inches of the arc and in the fume.

Samples for this purpose were taken at various points around the arv horizontally and above the arc as well as in the immediate area of the welder and inside of the welder's helmet. Only minor concentrations of nitrogen dioxide were ever found inside of the helmet.

Ozone was determined only in shielded electrode operations and all of the shielded electrode pro-

cedures investigated were found to produce it. More was produced in the operations with non-consummable than in those with consummable electrodes. The quantities of ozone found two feet or more horizontally from the arc were as great as, and sometimes greater than, those found within six inches from the arc and in the fume. The concentrations inside the welding helmet were similar to those at two feet from the arc.

It is thought that the reason for this difference between concentration of oxides of nitrogen and those of ozone is that the oxides of nitrogen are produced thermally by the arc or flame itself from the nitrogen and oxygen of the atmosphere, while the ozone is probably produced by the action of ultraviolet light from the arc and consequently can be produced at some distance from the arc.

With any of the shielding gases used, the exposure to the welder would be controlled by the application of the ventilation which has long been recommended for arc welding operations.

Several modifications of the reaction between ozone and alkaline potassium iodide were used for the determination of ozone. By the use of these modified methods, the interference with the ozone determination by the nitrogen dioxide necessarily present was reduced, but it was not eliminated so that the concentrations of ozone found were probably at least maximal.

It is not likely that the ozone methods are as reliable as those for nitrogen dioxide which seems to be quite readily determinable in the presence of ozone and the other gases commonly present in the atmosphere.

Plant Damage From Air Pollutants

The Identification and Distribution of Air Pollutants through Plant Response —Report of a California State-Wide Survey, by John T. Middleton, and A. O. Paulus.

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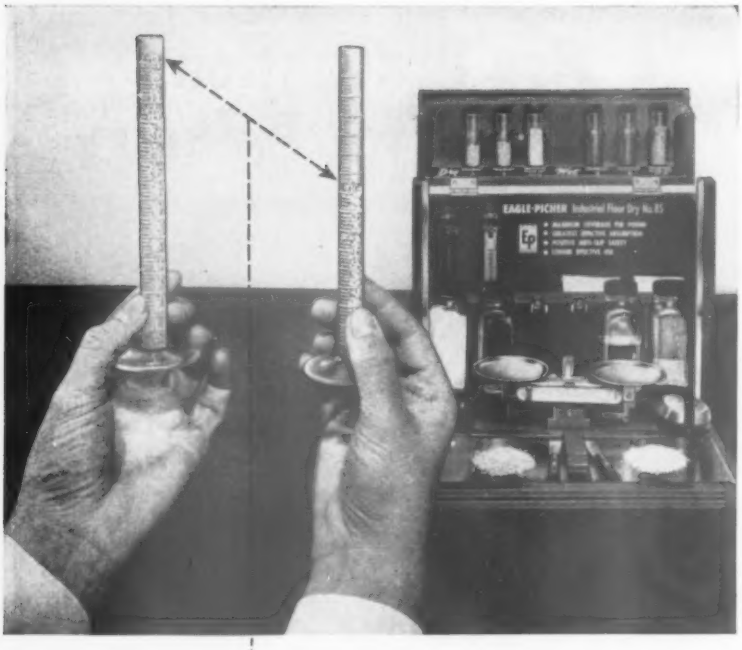

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of California. The specialists were trained as crop survey reporters by the use of samples, slides and descriptive literature on plant damage due to air pollutants. Each of the reporters was provided with cards which provided entries to show the exact geographical region and to indicate the presence or absence of crop damage for ten specific crops in each of the four categories of field crops, flowers, fruits and vegetables. There was also space for similar classification of eight species of weeds and room for a miscellaneous category.

By differences in symptoms and differences in plant species affected, it was possible to detect the occurrent of ethylene fluorides, oxidized hydrocarbons, ozone, and sulphur dioxide. Distribution was determined from the geographical information on the cards.

The material collected was tabulated monthly and analysis has shown that the oxidized hydrocarbons are widely distributed in the areas near urban developments, that fluorides are found only on specific industrial sites, that ethylene is common only to urban areas, and that ozone and sulphur dioxide are rarely found as air pollutants.

Noise Control

Noise Control in New Plant Design, by James W. Jackson, Jr.; Thomas Bonney, and S. E. Bittner, Jr.

THE CONTROL of the current metal noise has very rapidly become one of industry's important problems, and many companies now consider the noise effects of their plants not only on the employees in the plant but in the neighboring residences.

The Lancaster, Pa., plant of the Aluminum Company of America was designed with the idea of reducing the noise level produced by the automatic screw machines, rivet headers, and nail machines. After an intensive study of existing installations including means of reducing the noise at its source, the new plant was designed with the equipment spaced and mounted in accordance with the results of the experimental data. Spe-

cial care was taken with design of air ejection nozzles which are an intense source of noise and stock feeding tubes on automatic screw machines were lined to reduce the noise.

Floor slabs were isolated from building walls to prevent vibration and sound absorption material was applied on walls and ceilings. It is felt that the plant will be a quiet one and no neighborhood noise problems have been encountered.

Tumors From Creosote?

Experimental Carcinogenicity of Creosote Oils, by William E. Poel and A. G. Kammer.

INDUSTRIAL SAMPLES of light, medium and heavy creosote oils, tars and residual pitches have been studied for their ability to induce tumors on the skin of mice. They were tested by repeated application throughout the life span of the experimental animals or until skin tumors developed.

The activity of the domestic high temperature coke-oven by-products were found to be at least equal to that reported in the literature for samples obtained abroad. The light, medium, and heavy creosote oils were all found to be carcinogenic. Their potencies were less than those of the tars, pitch oils and pitches. 3, 4-benzpyrene which is a known high potency carcinogen could not be detected in the creosote oil samples in amounts which would explain their biological activity.

The demonstration of experimental carcinogenicity for the light creosote oil does not correspond to the facts presently known for human exposure. This may be due to the lack of sufficient evidence on exposures of men. There have not been many epidemiologic investigations on this particular point.

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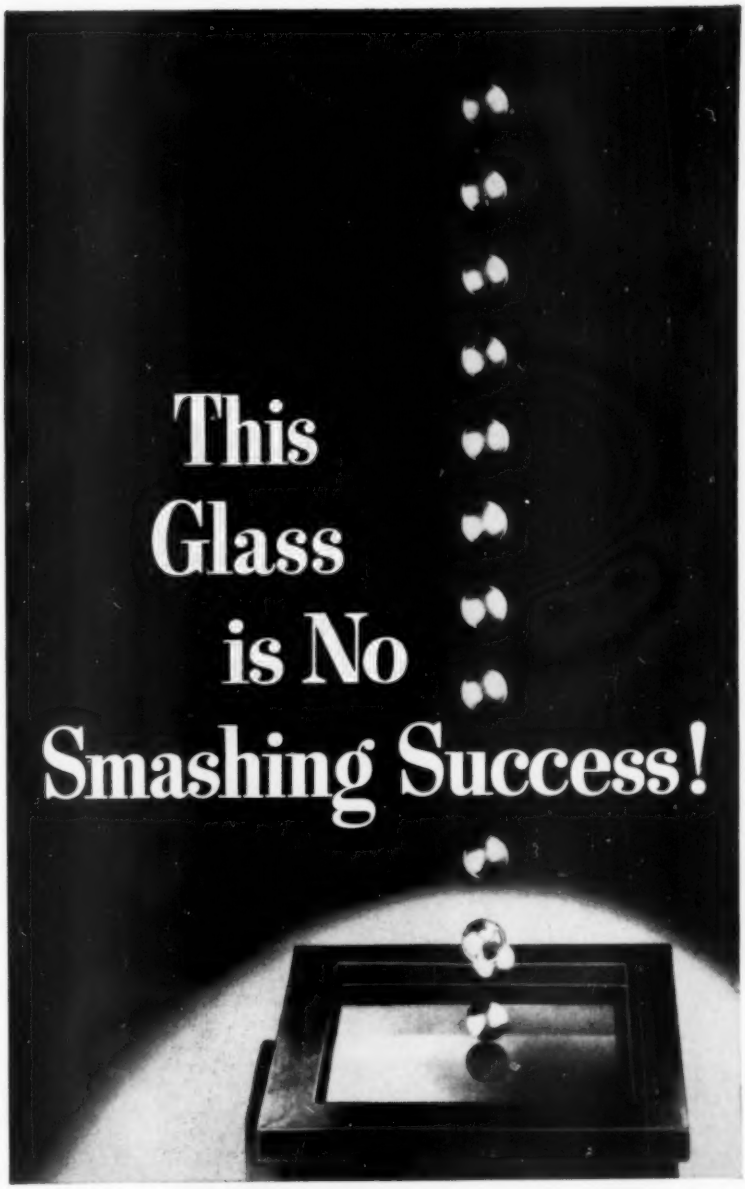


Even a ½ lb. steel ball, dropped *10 feet*, bounces right off *Tuf-flex**. That's why some manufacturers use ¼" *Tuf-flex* tempered plate glass as a glass cover to protect certain mechanisms.

Other manufacturers use *Tuf-flex* as a window in a furnace. This glass resists *300% more* thermal shock than regular polished plate glass of the same thickness.

Check all the ways you can use this remarkable glass to improve your product or a production process. Send for your free *Tuf-flex* booklet, TF-8. Write to Dept. 7366, Libbey-Owens-Ford Glass Company, 608 Madison Avenue, Toledo 3, Ohio. Order *Tuf-flex* from your local L-O-F Glass Distributor or Dealer . . . listed under "Glass" in the yellow pages of phone books. *®

L-O-F GLASS LIBBEY-OWENS-FORD *a Great Name in Glass*

presenting the new

DAVIS ALUMINUM FULL BRIM HEDGARD

Designed and styled to your liking and to provide maximum head protection and comfort.
Light in weight—and cool in hottest weather! That's the big reason men will prefer this amazingly comfortable hat—why they will wear it willingly! And it meets the most exacting safety standards—strength exceeds impact of 40 foot-pounds; ribbed alloyed aluminum construction insures maximum strength and toughness; six-point "snap in" suspension spreads impact and absorbs shock. One hat fits all head sizes and shapes! Send for Bulletin No. 1412.

ALSO AVAILABLE

Davis Plastiglas Hedgards

A complete line of light, strong, smart safety hats fabricated of polyester resin and fibreglas—many models available—full brim, cap or baseball type with lace-in or snap-in suspensions. Winter liners, cradles, chin straps and lamp brackets also available.

SAFETY DAVIS DIVISION

DAVIS EMERGENCY EQUIPMENT CO., INC.

55 Halleck Street, Newark 4, New Jersey

Flannel Board Presentations

—From page 86

ble. The fellow perched on top of the load in this illustration could really get messed up if the truck tipped over. Or he could easily sprain an ankle or break a leg by jumping off the load. So play it safe and resist the temptation to save a few steps. They could be costly to you.

Hurrying

(Place the figures 19 and 20 on board.)

Trying to get somewhere in a hurry can often lead to trouble. That fellow in the prone position in the illustration will probably end up in the hospital just because a couple of jerks were in a hurry. You really don't save time by running, shoving and pushing, but you sure burn up a lot of energy and probably shorten your life by a few years.

So take your time and save yourself a lot of grief.

Summary

(Use the illustrations on the flannel board to quickly summarize the main points.)

Aviation Outlook

—From page 82

opment by the National Advisory Committee on Aeronautics of a water-spraying device "that gives every indication of almost eliminating fire as a result of crash landings." Fire at such landings has been a major cause of flying fatalities.

"Aircraft of the future," said Mr. Guggenheim, "will have this device built in. The Center recommends that all present passenger aircraft that can be modified should carry this spraying device."

Private Flying Hazardous

Private flying, he noted, still is the most hazardous of all forms of flying.

"The Society of Actuaries in a 1954 report stated that the death rate of pilots flying private planes is one in 10,000 hours of flying, compared with one in 500,000 hours of flying of scheduled airline

pilots," Mr. Guggenheim pointed out. "Business pilots have a death rate of one in 70,000 hours of flying."

A special committee has been appointed by the Cornell-Guggenheim Aviation Safety Center to analyze the problem of private flying safety, and to make recommendations in an attempt to reduce hazards in this important field of aviation.

Seat Belt Saves Airman in Head-on Car Crash

LESS THAN 24 hours after he had installed a safety belt in his car an air force lieutenant sustained

only minor injuries in a collision which killed two and injured six in the other car.

Lt. Billy J. Yeiser, of Lincoln Air Force Base, Nebr., was driving in southern Illinois when his automobile was struck head-on by another vehicle which was in the wrong lane and passing on a curve in a no-passing zone. The airman's car was traveling about 20 mph. and the other car at an estimated 60 mph.

Lieutenant Yeiser, treated for a broken nose, face and neck lacerations, and chest bruises, told authorities he might have escaped even these injuries had the belt been drawn tight.

Many Air Force base exchanges are now offering safety belts for sale and ground safety officials have strongly encouraged their use in private vehicles.

Not just claims...but case histories

Proof that LEGGE Floor Maintenance
SAVES you money
PREVENTS slip-accidents
PROTECTS your floors
A famous institution spent $60,000 yearly to care for its floors. LEGGE Maintenance lowered the figure by 32%. A $19,000 saving.
A museum's floors kept their original application of LEGGE Polish for 6 months without stripping. Previously this was a once a week job. A 26 to 1 saving in labor plus big savings on materials.
Caught in the vicious cycle of stripping, waxing, stripping, etc., an office building's floors were ready for junking. LEGGE Maintenance added 10 serviceable years to their existence.
A hospital reported 283 slip-falls in 3½ years. LEGGE cut such accidents to zero.
LEGGE
LEGGE SYSTEM of Sanitary Floor Maintenance

Wouldn't you be wise to invite a LEGGE *Maintenance Specialist to examine your floors? No obligation, no charge for his services.*

New color movie

"Modern Floor Maintenance" trains your crews in do's and don'ts of floor upkeep. This informative 16mm. film is in sound and color. Our representative will gladly show it at your convenience. Just clip coupon.

Walter G. LEGGE Company, Inc.
Dept. N-6, 101 Park Avenue, New York 17, N. Y.
Branch offices in principal cities.
In Toronto— J. W. Turner Company

☐ Send me full information on LEGGE Safety Floor Maintenance.

☐ Contact me to arrange a showing of your Maintenance movie. No obligation to me.

NAME_____
FIRM_____
ADDRESS_____
CITY_____ ZONE_____ STATE_____

There is a better way to register safety messages!

"Safety messages *that get read*" the National Safety Council confirms, " do help reduce accidents." Yet how difficult it is to get them read — particularly the familiar simple cautions we are all so prone to disregard.

Here's one way to do it

AJAX CUPS put your safety message right in your worker's hand, several times a day, at just the moments when he is relaxed, receptive, ready to read.

At the same time, these crisp, clean AJAX Cups provide the most convenient, comfortable drinking water service, boost worker morale, and reduce the hazards of transmitted infections.

Any bubbler fountain is easily converted to provide this service. Ask your paper merchant about it.

AJAX® Cups — one-piece, wedge-shaped, easy to hold and drink from; in 4, 6 and 7 oz. sizes; packed imprinted with assorted stock safety messages at no extra cost or your own message to order.

AERO® Cups — for those who prefer a flat-bottom cup; in 3, 4, 5 and 6 oz. sizes. Also with stock safety messages or your own message to order.

GET THE FULL STORY
Write us today for this new folder which gives full details about safety-imprinted AJAX and AERO Cups and equipment.

United States Envelope Company
General Offices: Springfield 2, Massachusetts
15 DIVISIONS FROM COAST TO COAST

Metal Fumes

—From page 90

Welders working on galvanized iron are exposed to zinc oxide formed by volatilizing zinc at the high temperature of the welding flame or arc. The zinc is a relatively nontoxic metal. Therefore, though violent symptoms may be experienced upon excessive exposure to these metal fumes, it is generally agreed that no long-term harmful effect results. The same complacency, however, does not exist for brass foundry employees experiencing zinc chills since a toxic concentration of lead fume almost always accompanies the zinc fumes.

Brass is an alloy usually containing copper, lead, tin and zinc and, therefore, high temperatures whether from welding or melting brass volatilizes the other metals, as well as zinc, and exposure to these metal fumes is a more serious problem than exposure to relatively nontoxic zinc fumes alone.

How to Operate a Movie Projector

WELL-CHOSEN, well-projected movies can make a training session interesting and effective. However, an inexpert operator can ruin the film as well as the show.

Following are points to remember:

A. Before Threading

1. Center light beam on screen and focus.
2. Check to see if lens, sprocket rollers, pressure plate and aperture gate are clean.
3. Re-focus.
4. Test speaker — listen for hum.
5. Check switches for sound vs. silent speed; forward vs. reverse.
6. Check take-up reel. Be sure it is same size as reel of film being used, and is not bent or nicked.

B. Threading

1. Do not let film touch the floor or any other dusty sur-

face. Dust makes permanent scratches.
2. Thread according to directions in manufacturer's handbook, which comes with projector.
3. Thread film on the leader.
4. Turn the mechanism by hand to be certain sprocket teeth are properly engaged.

C. Projecting

1. Turn on sound, but keep at lowest volume.
2. Turn on motor.
   After projecting a few feet of the leader, stop the machine and examine the film. Never run into the opening title without examining projected leader for damage. If there is no damage, turn on the motor again.
3. Turn on lamp as title appears. This will avoid the distraction of flashing numbers on the screen.
4. Re-focus.
5. Bring in music softly; regulate sound.
6. Frame.
7. Check frequently to see that film is winding smoothly on the take-up reel.
8. Occasionally check for sprocket damage by letting the sprocket edge of film run lightly through fingers, just before film reaches take-up reel.
9. At end of film:
   a. Blend sound to lowest volume.
   b. Turn off lamp.
   c. Turn off motor.
   d. Turn off sound.

Do We Deserve Their Faith and Trust?

THE CONFIDENCE of a young child is something that makes many a man ease his foot on the accelerator. That feeling was well expressed in the following letter to fellow employees written by Carl E. Smith, wire chief for New England Telephone & Telegraph Company, and published in the company's divisional bulletin:

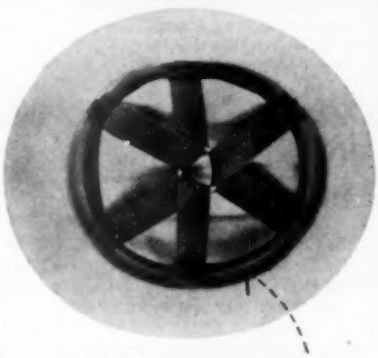
FELLOW EMPLOYEES:

Recently I took my family for a Sunday drive. As we drove along, one

PROVEN BY THE REBOUND!

These Bullard engineering and sales research men are studying not only the impact, but also the rebound of this eight pound ball. Rebound action is the extra safety margin in Bullard safety hats and caps. Their scientifically designed three-ribbed crown not only resists impact but deflects heavy falling objects. This is one of the reasons why Bullard fiber glass hats and caps surpass all necessary industrial tests.

Greater protection plus style, comfort and color make Bullard head protection the best and longest lasting buy in safety hats and caps. Chin straps, winterliners and face shields are available for all styles of Bullard safety hats and caps.



Universal size—replaceable headband

Three-ribbed crown construction

Choice of permanent molded-in colors to identify company or trade. Aluminum hats and caps available also in variety of colors.

EVERYTHING BULLARD IN SAFETY

T. M. REG. U. S. PAT. OFF.

HARD BOILED

see our catalog in PLANT ENGINEERING FILE or write for copy

BULLARD

E. D. Bullard Company, 275 Eighth St., San Francisco

of the younger children, tiring of the confinement of the car, curled up on the front seat, between my wife and me, and with a sleepy grin fell sound asleep. I glanced down at him sleeping so peacefully and couldn't help thinking, "Here is complete and perfect faith and trust." The child had fallen asleep knowing in his little mind that no harm would come to him.

As I reflected on this thought I wondered if I deserved this trust and instinctively my foot eased up on the accelerator, lest a sudden stop might cause him to fall off the seat and suddenly my attentiveness to my driving duties became more acute.

Later that evening as I sat at home, comfortably dozing in my easy chair, this same picture flashed across my mind and I thought, "Perhaps there is a lesson to be gained in this," and I decided to put my thoughts on paper.

Of course, we can't have our children with us during our work day, but I couldn't help thinking if just before we started to take that chance and pass on a hill, or perhaps try to pass that slow-poke on a curve, or maybe it's trying to get to that last job and we notice the speed is climbing over 40 miles an hour, whatever the chance is, if just before we took it, we could see in our mind's eye the picture of our child beside us on the seat, smiling up at us, I know we would never take that chance.

How many of you family men have heard that familiar parting remark in the morning as we start out for work, "So-long, Dad, see ya tonight." I wonder the result, if just before we took that careless chance during the day, we stopped and pictured those same happy faces and saw the dread fear and unhappiness come across them as their mother tried to explain that they would never see their father again because he had been involved in a fatal accident. I just know if we stopped and saw this picture, we would never take that chance.

Let's never be undeserving of their faith in us. Let's never, through a careless or thoughtless act, be unworthy of their trust in us, and yes, let's never take away their hope for the future. For as sure as life itself, their hope for the future is dim indeed without us.

Isn't this, in fact, what our safety program is all about? To assure our families, especially our children, the right to their faith and trust in us and their sincere hopes for the future.

Bradley Multi-Stall Shower Units installed in new E C & M Cleveland plant by Spohn Heating and Ventilating Co.—*Architects and Engineers,* Arthur E. Rowe & Associates; Sam W. Emerson Co., *builders.*

MODERN MULTI-STALL SHOWERS MEET MODERN PLANT REQUIREMENTS

Typical of the fine equipment in the new E C & M's plant are the Bradley Multi-Stall Showers. Each unit has three stalls requiring but one set of piping connections—hot and cold water, and drain.

Aside from savings in space and piping connections, many users consider the central mixing chamber a big feature because it protects against discomfort or possible burns that result from sudden unexpected changes in water temperature when an adjacent shower is turned on or off.

Bradley Column Showers are also available without partitions and curtains as shown at left. Bradley Column Showers provide excellent facilities in minimum space at the lowest possible cost. Complete specifications are included in new Catalog 5601 . . . BRADLEY WASHFOUNTAIN CO., 2237 W. Michigan St., Milwaukee 1, Wis.

BRADLEY multi-stall showers

Cat. 5601. Copy mailed on request.

Distributed Through Plumbing Wholesalers

The Sun Can Really Burn

THE SUN is a potent source of ultra-violet radiation, especially in the summer when the sun is almost straight overhead. Exposure of the body to stimulating doses of ultra-violet light is healthful, but overdoses cause inflammation of the skin (sunburn) to a degree comparable to length of exposure.

It is advisable to know the factors controlling the effects of sunlight. Then we may sensibly protect ourselves from overdoses but, at the same time, avail ourselves of its health-giving properties.

These factors fall into three groups:

1. Individual susceptibilities.
2. Conditions determining the amount of ultra-violet radiation present in the sunlight to which one is exposed.
3. Length of exposure.

The longer the exposure, the greater the effect, but what most people don't seem to understand is that sunburn can be caused by what may seem to be very short exposures, and that the reaction in the skin doesn't occur immediately, but appears several hours later.

The amount of ultra-violet

reaching us varies markedly with atmospheric conditions, time of the year, and reflecting qualities of surfaces in the near vicinity.

Clouds limit but do not cut off all ultra-violet. In high mountains or desert, where the air is thin and free from moisture and dust, radiation is markedly higher. Water, sand, snow, ice or other smooth surfaces are good reflectors of ultra-violet. One surrounded by such surfaces gets not only the direct radiation from the sun but also the additional amount which may be reflected. One could be in the shade all day near water or on a sandy beach and still be painfully burned.

Under bright mid-day sun, the average brunette can take two, direct 15-20 minutes exposure the first day; two, 20-30 minute exposures the second day, etc. Blondes, redheads and others highly susceptible should start with 5-10 minutes the first day and increase 5-10 minutes daily. Use of suntan oils or other protective measures will increase these times somewhat.

Take full advantage of the health-giving properties of sunlight, but don't try to get your yearly quota in one day.

Cleanliness—Preventive of Skin Diseases

(Summary of paper presented by Louis Schwartz, M.D., at Annual Convention, Association of American Soap & Glycerine Producers, Inc., January, 1956.)

OCCUPATIONAL skin diseases constitute two-thirds of all occupational diseases—this because the skin is the largest and most external organ of the body and is the first to come in contact with environmental irritants.

Examinations made in factories show that at least 1 per cent of all factory workers are affected with occupational diseases of various degrees of severity at any time that an examination is made. If we count 25 million workers in our factories, that means 250,000 cases of occupational dermatitis.

Predisposing causes. All workers at the same job do not develop occupational dermatitis. Those workers who keep their skin clean are less likely to develop occupational dermatitis, whereas workers lacking in personal cleanliness are more apt to develop occupational dermatitis.

An analysis of 41,000 cases of occupational dermatitis shows that petroleum products and greases, alkalis, solvents, and plants and woods are the four leading causes of occupational skin diseases.

The most important preventive measure against occupational skin diseases is personal cleanliness. Other preventive measures consist of protective ointments, protective clothing, and good housekeeping.

Water is the oldest and natural skin cleanser. The action of water is aided by wetting agents. Soap is the oldest and most universally used wetting agent. Nearly everybody can and has safely used soap for centuries. Those few whose skin is inflamed by the use of soap, either use soap to excess or do not properly rinse it off their skin. Very few are truly allergic to soap.

Cake soaps and liquid soaps are best suited for office workers. Granular soaps are preferred for factory workers. Cake soaps are best suited for shower baths.

There are many kinds of industrial cleansers but all of them should have the following properties:

1. They should be freely soluble in hard, soft, hot or cold water.
2. They should remove foreign soil from the skin without hurting the skin.
3. They should not contain substances which will abrade the skin.
4. They should not deteriorate or become insect infested.
5. They should be convenient for use either in cake form or flow freely through dispensers.

Many men who proposed on their knees have spent the next ten years trying to get back on their feet.

He, relieved: "Thank goodness, at last we're out of debt."

She, relieved: "That's swell. Now I can get credit again."

BULLARD'S REPELLANT

Repels mosquitoes, chiggers, red bugs, fleas, flies, gnats and other insects for eight to ten hours. Non-irritating spray can be used on clothing and equipment, in vehicles or as a mist around working areas. In 6 ounce aerosol spray cans . . . write for circular.
E. D. Bullard Company,
San Francisco, California

plan now for this summertime hazard

EVERYTHING BULLARD IN SAFETY

Says Safety Director Joe Glop
"My meetings were always a flop
Until Automation
Made each a sensation.
Automatic ADMATIC is tops!"

Sell Safety All Day
The Admatic Way

Write for catalog covering our complete line of automatic slide projectors and safety slides. Address Department "B"

POSTER SLIDES
10 East Kinzie Street
Chicago 11, Illinois

Tell Plant Safety Story In Newspaper Ad

"SAFETY IS FIRST At Bridgeport Brass." This was the headline on the eight-column advertisement in the Easter edition of the *Bridgeport* (Conn.) *Sunday Post* purchased by the Bridgeport Brass Company to tell its accident prevention story to the community.

Without boastful language or screaming headlines the recent winner of the National Safety Council's Award of Honor for 5,098,058 man-hours without a serious accident during 1955 put across the idea that at Bridgeport Brass every employee works at safety.

In words and photos the ad showed how the company's interest and investment in safety protect its workers. The firm's shoe store (where safety shoes are sold at cost), the modern, full-time hospital (staffed with a medical director and surgeon, three registered nurses and two first-aid assistants), and fire-fighting equipment were pictured.

Other photos showed a display of personal protective equipment, one of the 50 bulletin boards where safety posters are changed weekly, and a pair of safety goggles which saved an employee's eyesight when molten copper splashed against them.

The text of the ad told some of the details of Bridgeport Brass' "Play It Safe" program: how the director of safety, William S. Visokay, and other supervisors attended courses of the National Safety Council, Greater New York Safety Council, American Society of Safety Engineers, and the Connecticut Safety Society; how each department has an employee safety committee; how every new worker is carefully supervised and coached in safe work methods.

In addition to the Council's highest award, the company recently received the Award of Honor from the Copper Brass Research Association for top place in the brass industry. In pointing out its achievements, the ad concluded with the pledge that safety will continue to be a ceaseless effort.

Darkness invites theft, panic, injury
Exide Lightguards* prevent sudden darkness

When power fails and lights go out, Exide Lightguard emergency lighting units go on—instantly and automatically. Plug into regular outlets. Built-in charger. Batteries last for years. Choose from variety of models to meet your needs. Send coupon today.

*Lightguard is a trademark of Electric Storage Battery Co., Reg. U.S. Pat. Off.

BE SAFE—MAIL COUPON NOW

Exide Industrial Division
The Electric Storage Battery Company, Phila. 2, Pa.

Send details on ☐ portable Exide Lightguards
☐ larger Exide lighting systems.

Name _____

Street _____

City _____ Zone _____ State _____

18

Exide®

Metal Ricochets, Scores Two Bull's-Eyes

A FLYING SCRAP of metal from a broken high speed pneumatic drill flew upward, shattering the left lens of the operator's goggles.

If the incident had ended there, it would have been just another case of an eye saved, another argument for wearing goggles. But . . .

The flying metal glanced off the shattered lens, striking the right lens of the helper's goggles. Another eye saved.

The incident occurred in the Puget Sound Naval Shipyard, Bremerton, Wash., where an intensive eye protection program has been in force for some time.

The best thing about the future is that it comes only one day at a time.

Tacked On or Planned Into?

By LEO A. BROOKSHIRE

WHERE do you start in any analysis of an accident prevention program? My guess is with the safety department—the personnel employed in accident prevention work.

How many times have you seen the safety engineer trying to tell an electronic engineer how to do his job—or maybe a design engineer on how to build a perfect accident free machine. In other words the safety engineer knows it all.

We in safety must be vain for we don't know it all. We know very little about general things—sure we know the safety aspects of all phases of our particular operations. *"We try to tack safety on rather than seeing it planned into..."*

Safety personnel are salesmen and are selling a priceless item to every man, woman and child. We have a hard item to sell so let's try to use less force and more appeal.

My experience has been that by utilizing promotional ideas you can plant the safety seed without having anyone realize what has happened.

Use posters, contests, gimmicks and any idea you can get that will appeal to the employees. From the time they leave the parking lot until they return have some aspect of safety where they can see it. You don't have to force it; they will remember in their subconscious minds.

The accident problem will be on top of the fence when your promotional ideas are in front of your employees throughout the work period. Keep your safety program on top of the fence and you have solved the problem of tacking "safety on" and you can rest assured everyone is incorporating safety into their thinking and planning.

A program of scheduled "tailgate meetings" for the lowest employee-supervisor level is a sure fire way of maintaining interest. This program will require four things:

1. Plan the topics and write up the talks for the person conducting these short meetings. However, it is wise to allow him to choose his own topic should he desire to do so.

2. Be sure the person conducting the meetings forwards the results of the meeting to you through his department head along with all recommendations for improving the safety program. (Prepare a form if necessary.)

3. Arrange for all personnel to have meetings at the same time ensuring that every plant employee will be thinking of safety at this same time. Even management may think about safety long enough to give you the added support you need.

4. Prepare work sheets, for any observed unsafe acts and unsafe conditions for the supervisors to use during the week. The supervisor notes them and brings them up at the weekly meetings. You can get the supervisor to forward these lists to you and they will serve as a basis for analyzing your accident potential.

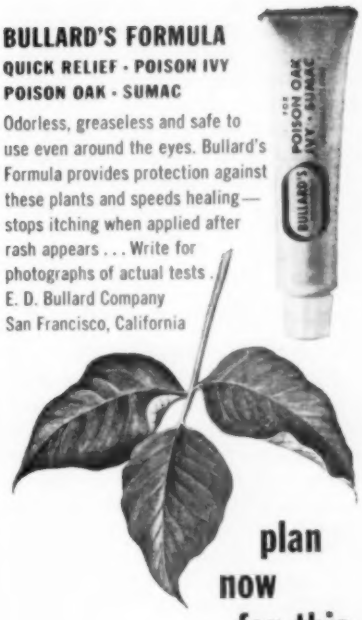
You must communicate with all supervisors and department heads keeping them informed. We use "THE WORD"—a simple heading such as this across the top of a page will catch the eye. This medium is used to get "THE WORD"—the latest word on safety, accident trends and new developments out to these key people.

This can go on and on but remember The National Safety

LEO A. BROOKSHIRE is Assistant Safety Engineer, Redstone Division, Thiokol Chemical Corp., Huntsville, Ala.

BULLARD'S FORMULA
QUICK RELIEF - POISON IVY
POISON OAK - SUMAC

Odorless, greaseless and safe to use even around the eyes. Bullard's Formula provides protection against these plants and speeds healing—stops itching when applied after rash appears . . . Write for photographs of actual tests.
E. D. Bullard Company
San Francisco, California



plan now for this summertime hazard

EVERYTHING BULLARD IN SAFETY

NATIONAL SAFETY COUNCIL Motion Pictures

for FREE group use are distributed by

® Ideal Pictures

58 E. South Water St., Chicago 1, Ill.

Branches Coast-to-Coast
World's Largest 16mm Film Library—
Serving America Since 1920—

Just Published —
Ideal's 1956 - 57 Catalog listing many films on safety and other important educational subjects.

Write for your free copy today

Council as a source of help. Use their films and publications with the adjustments you may need for your own particular operations.

Analyze your program for your own faults—not the inefficiencies of others. The safety department is the key to the plant safety program. Keep it well-oiled with ingenuity.

Present Sloan Awards For Safety Broadcasts

ELEVEN Alfred P. Sloan Awards, broadcasting's top honor for public service in promoting traffic safety, were presented May 16 at the eighth annual award dinner in the Waldorf-Astoria hotel, New York.

The winners were:

The CBS Radio Network.

Radio stations WTTM, Trenton, N. J.; KONO, San Antonio, Tex., and KDPS, the latter a noncommercial educational station in Des Moines, Iowa.

Television station WTVJ, Miami, Fla.

Six commercial sponsors: R. J. Reynolds Tobacco Co.; Standard Oil Co. (Indiana); Chevrolet Motor Division of General Motors Corp.; Sears Roebuck & Co., Bakersfield, Calif.; Schafer's Bakeries, Detroit, Mich., and Auto Specialties Manufacturing Co., St. Joseph, Mich.

CBS, KDPS, KONO, WTVJ, Chevrolet and Standard Oil of Indiana each have won once before in the eight-year history of the awards.

More than 200 business, industry and media executives, civic leaders and government officials attended the award ceremonies. Harold E. Fellows, president of the National Association of Radio and Television Broadcasters, presented bronze plaques to the winners in behalf of the Alfred P. Sloan Foundation, sponsor of the awards.

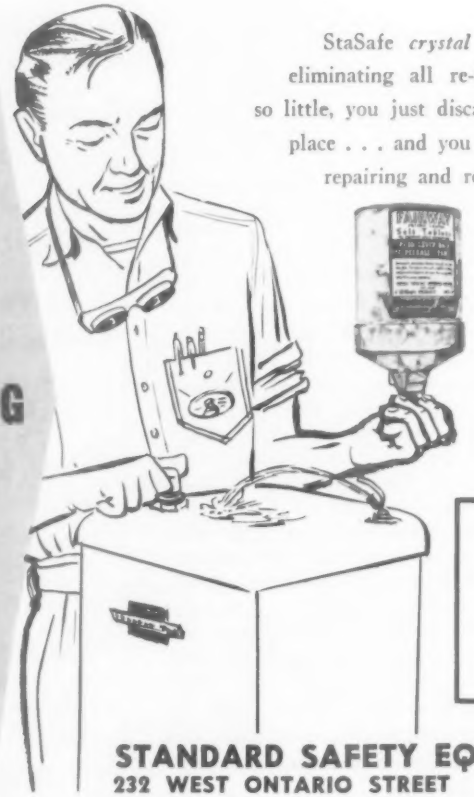
The Sloan Awards are administered by the National Safety Council. They were established to encourage the broadcasting industry to step up its support of highway safety and to recognize the best annual performances of radio and television stations, networks and advertisers.

Judges for the awards were Ned H. Dearborn, president, National Safety Council, chairman; Charles F. McCahill, chairman, media group, President's Committee for Traffic Safety; Kenneth G. Bartlett, vice president and dean of public relations, Syracuse University; E. H. Holmes, deputy commissioner, U. S. Bureau of Public Roads; Mrs. Stephen J. Nicholas, executive director, General Federation of Women's Clubs, and Frederick H. Garrigus, manager of organizational services, National Association of Radio and Television Broadcasters.

One of the heaviest loads you can carry is a bundle of bad habits.

crystal dispensers

LOWER THE COST OF PUTTING SALT TABLETS IN HIS MOUTH



StaSafe *crystal* dispensers lower your salt tablet costs by eliminating all re-filling expenses! Clear plastic *crystals* cost so little, you just discard the empties and slip a new dispenser in place . . . and you are still dollars ahead. Savings in servicing, repairing and re-filling cut the cost of salt tablets to a new low. *Crystals* are available in 500 or 1,000 tablet sizes (all tablets sealed-in at our factory). Your choice of enteric coated or impregnated tablets at the same price.

Write in today for your 1956 SALT BROCHURE

STASAFE POCKET PAKS . . . packets of six enteric coated tablets sealed in protective plastic. Perfect for routemen, drivers, salesmen, busy executives or anyone often away from the plant.

STANDARD SAFETY EQUIPMENT COMPANY
232 WEST ONTARIO STREET CHICAGO 10, ILLINOIS

NEWARK 4, N. J. 597 BROADWAY
CLEVELAND 10, OHIO 855 EAST 152nd ST.
LOS ANGELES 66, CAL. 12921 W. WASHINGTON BLVD.

Turning The Microscope On the Foreman's Job

"An industrial foreman must have a stable temperament in order to cope with the difficult job of supervision."

So say top-ranking business executives, who were asked by the National Management Association (NMA), "Why do some foremen fail?"

NMA executive vice-president Marion N. Kershner said the organization determined to find out the basic reasons for failure of some foremen to measure up to expectations. There were some foremen, he explained, who disappointed executive management with poor performance of managerial duties. He added that on-the-job failures among these foremen proved frustrating to all foremen who desired immediate acceptance as bonafide management personnel.

The NMA's research department went to work. Questionnaires were sent to a representative group of executives across the country. Some 61 per cent of those queried replied.

The question, "Why do some foremen fail?" was designed to allow maximum freedom in answering. Most respondents wrote extensively and many of their thoughts were the reflection of an entire company management staff.

The NMA's research staff, after compiling the answers, came up with these conclusions:

There was general agreement among executives on certain factors. These were in such areas as proper selection of foremen, training, communications, desirable attitudes, and the need for a healthy, plant-wide atmosphere of good human relationships. However, Kershner declared, there were varying reactions as to the degree of emphasis and as to what constituted "good human relationships." Here are some of the comments received which, according to Mr. Kershner, indicate the thinking along that line:

"To become a successful foreman, one has to, among other things, like people and know how to get along with them."

"With the emphasis we place on human relations, new supervisors frequently get the impression that their main job is to keep their employees happy. They miss the point that their main mission is to get the job done."

"Call the reason what you will —a negative social attitude, social incompetency, or just plain arrogance and irritability — the greater percentage (of foremen) failed because they would not accept and apply the basic principle of good human relationships."

Mr. Kershner said the executives—from their comments—ap-

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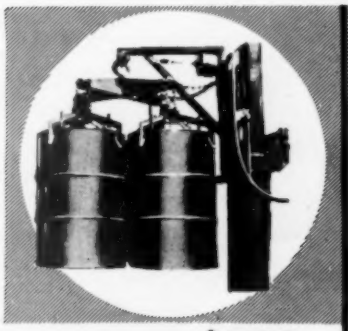

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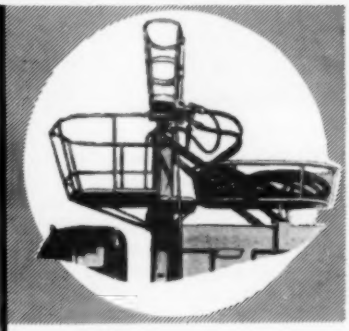

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parently believed some of the responsibility for foremen failures lay with executive management and some with the foremen themselves.

Faults which executives laid at their own doorsteps most frequently were:

1. Inadequate training of foremen.
2. Inadequate foremen selection and placement methods.
3. Failure to define and spell out what is expected of the foreman.
4. Lack of follow-up by the foreman's superior through counseling and evaluating performance.
5. Poor management communications, especially in disseminating policy decisions from board chairmen to foremen.
6. Failure of executive management to provide proper motivation for a good job through both monetary and non-monetary incentives.

Other factors such as union infringement on the foreman's authority and labor's reluctance to accept foremen as part of management were mentioned in the returned questionnaires but not weighted as heavily as the six points just listed.

The executives, according to Mr. Kershner, held foremen responsible for their own failures in these respects:

1. Inability to deal effectively with personal relations problems, both with workers and with other management men.
2. Personal shortcomings, such as lack of initiative and emotional instability.
3. Lack of a management attitude and understanding.
4. An unwillingness to spend leisure time and effort on managerial self-development.
5. Inability to effectively plan and organize work, and to adjust to changing conditions.

On one point, Kershner declared, there was no disagreement among executives:

"The foreman's job is a very difficult one, highly exacting in personal requirements."

To illustrate, Mr. Kershner quoted a company vice-president as saying:

"We long ago discovered that we must inquire into the temperamental make-up of an individual to find whether or not he possesses a genuine aptitude and liking for the rather complex job of guiding the work of others."

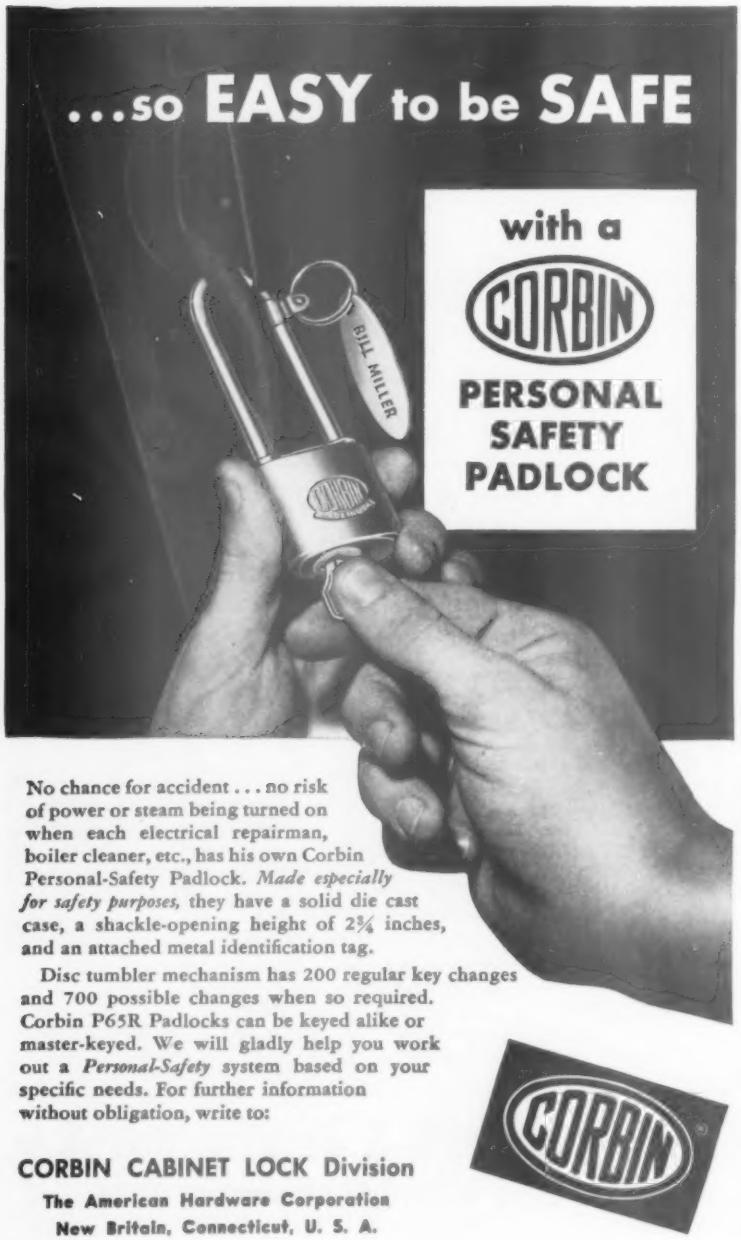
This same executive continued:

"To us, skill and competence in a given field of industrial endeavor is always secondary to a requirement that a management man be able to successfully work with people. Our findings have clearly indicated that such individuals are rare."

Did you know that the average person, during his stay on earth, sleeps about 189,560 hours?

Movie star: "I'd like for you to meet my husband."

Director: "Of course. Always glad to meet a husband of yours."



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Test Noise Level of Hard Hats

NOISE LEVEL TESTS of construction safety hats were the subject of a recent safety engineering study at Industrial Indemnity

USING a tape recorder, sound amplifier, octave band analyzer, and sound level meter, a research engineer conducts noise level tests on a hard hat. Tests show effect of safety hats on noise level as heard by wearer.

Company's San Francisco research laboratory.

The tests, conducted for E. D. Bullard Company, were designed to determine the effect of hard hats on noise level as heard by the wearer.

The insurance firm's research engineer, G. L. Rodier, first recorded representative factory noises on a high-fidelity tape recorder. Then, in the research laboratory, he used an octave band analyzer and a sound level meter to compare the noise that would be experienced by a workman with and without a safety hat. Fourteen different makes of safety hats were studied. Each was checked for possible reverberation or amplification of noise to the wearer.

The study revealed that in no case is there an increase in noise level due to wearing any of the safety hats tested as long as the hat is worn squarely on the head. In fact, a marked decrease in noise level occurs when the hat is worn in the prescribed manner. This decrease is due to the construction hat "shadowing" reflected noise which normally surrounds the wearer.

The information gained from the study will be used to combat workmen's laxity in wearing the safety hats because "they're too noisy."

Clerk: "Lady, would you be interested in buying some egg shampoo?"

Young bride: "No, I guess not. We seldom have dirty eggs."

"You'll never get it done if you don't stop clowning!"

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Communication

—*From page 74*

Distribution of a communication piece is determined largely by its contents. A maintenance and construction manual, for example, was distributed to all supervisory and maintenance personnel as well as engineering departments concerned. Supervisors draw them out of stationery stores for distribution to other personnel as needed. Since the contents apply to contractors working in Allis-Chalmers shops, copies are distributed to them so they can comply with its regulations.

Distribution lists for special publications such as standards and data sheets are retained so that revisions can be sent to all concerned and the contents kept up to date.

To do an effective job, safety material must be *used*. Follow-up checks or studies are helpful in determining their effectiveness in the areas to which they apply. Constant watchfulness is also required to assure that policy or procedural changes are incorporated into revisions as needed.

Whether you develop your own safety communication material or use "packaged" programs of the National Safety Council type, your messages are your "salesmen." Their impact, when well planned, may save many times their cost in reduced accidents and heightened employee interest.

Pointing the Way to More Effective Safety Promotion

Regularly changed messages on a Wagner Enduronamel* Board are the answer to more effective safety selling. Shown is an installation for Sealed Power Corporation, Muskegon, Michigan, which includes 30-foot panels on each side of an overpass.

The coupon will bring you free literature which will illustrate how many industries are using this new device.

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Plastic Cap Liners Protect Meter Readers

CONSOLIDATED Edison Company meter readers soon will have effective protection against accidental head bumps thanks to a practical, lightweight plastic uniform cap liner developed by two Con Edison safety men.

RICHARD MOLEN (left), safety inspector, and Robert Nesbit, safety lecturer, with "Nesmo" plastic hat liner, named for its inventors.

The device, named the "Nesmo" hat liner after the names of the two men who developed it, is the result of intensive research by Robert Nesbit, safety lecturer, and Richard Molen, safety inspector, both of the company's Safety Bureau.

The liner was designed to be used by uniformed personnel, such as meter readers, whose work may take them into basement corners where overhead obstacles such as exposed piping sometimes exist.

Because they work in uniform, outdoors as well as indoors, and are not continually exposed to head injury hazards, it would be impractical for them to wear hard hats like station construction or emergency work personnel.

The Nesmo hat liner comprises a shaped crown designed to fit inside any standard uniform cap. The crown is held in place inside the cap by an attached plastic anchor strap which tucks in behind the sweat band. This also provides a degree of frontal protection. A foam rubber pad centered in the underside of the crown cushions against any sudden impact with an overhead object.

This liner can be used with the type of uniform caps generally worn by utility meter readers, chauffeurs, or uniformed delivery personnel. It was displayed at the Gimmicks and Gadgets section of the Greater New York Safety Conference.

The liner will be available to Con Edison personnel as standard equipment wherever uniform caps are worn. It can be incorporated into the uniform cap at the time of manufacture, or it can be inserted separately in any cap. Thus it does not require the replacement of existing unifom cap stocks.

Radiation Installations Registered by N.Y. State

NEW YORK STATE firms have registered 259 industrial installations where enough radiation exists to fall under the State Labor Department's new regulations protecting workers from on-the-job hazards of atomic and other radioactive energy, Industrial Commissioner Isador Lubin has announced.

In the five counties of New York City, 96 installations have been registered with the Department's Division of Industrial Hygiene. Thirty-six other counties have 163 installations. The heaviest concentration outside the metropolitan area is in the Niagara Frontier counties of Erie and Niagara, where there are 37, and in Schenectady county with 15.

Review of the registrations indicates three significant points. First, there is a large number of sealed sources of cobalt 60, which indicates the growing importance of this isotope for radiography and irradiation. Second, the large quantity of highly toxic unsealed radium underscores the magnitude of the special problem presented by firms processing and using this material. Third, the growing importance of industrial research is attested to by the large number of isotopes utilized in research and the fact that nine electron microscopes are to be found in industrial laboratories in the State.

An installation is defined in the State Regulations as "a location where for a period of more than 30 days one or more sources of radiation are used, operated or stored." Excluded are hospitals, educational institutions, laboratories handling equipment for medical use, institutions, medical clinics, medical offices, dentists' offices, podiatry offices, veterinary clinics and veterinary offices.

To my mind, the most serious bottleneck in the peaceful applications of atomic energy today is not money. It is not uranium. It is trained manpower.—*Dr. Willard F. Libby.*

The Stryker

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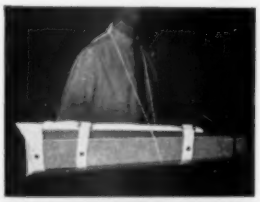

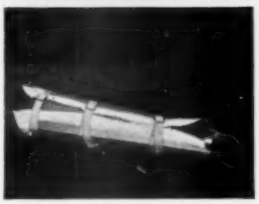

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H. W. Heinrich Retires

ONE OF THE best known safety engineers in insurance circles, H. W. Heinrich, superintendent of the engineering and loss control division of The Travelers Insurance Companies, has retired after more than 43 years' service with the insurance firm.

Mr. Heinrich has been associated with The Travelers since 1913 and has had extensive service in both the home office and in the field.

He is a registered professional engineer (mechanical) in Connecticut and holds a designation as a chief engineer, Marine, from the U.S. Department of Commerce. Mr. Heinrich is also a boiler and elevator inspector in several states.

Mr. Heinrich is a member of the American Institute of Electrical Engineers, the American Society of Sanitary Engineers, the Hartford Engineers Club, the President's Conference on Industrial Safety, the liaison committee on safety of the Associated General Contractors of America, and is active in committee work for the American Standards Association.

H. W. Heinrich

In World War I, Mr. Heinrich served with the U.S. Navy as a Lieutenant and during World War II, he was chairman of the Safety Advisory Committee to the War Department, chairman of the War Department Safety Council, a member of the Advisory Board on Fire and Accident Prevention of the Office of the Undersecretary of War and also served on a special committee formed by the Secretary of War to control accident fatalities in the European Theatre of Operations immediately following the war.

An internationally known authority on safety, Mr. Heinrich is the author of several books, manuals and magazine articles. He has written *Industrial Accident Prevention, The Supervisor's Safety Manual, Basics of Supervision,* and *Formula for Supervision.*

In 1952, he received the Arthur

This Ladder Will Reduce Accidents In Your Plant

THIS "Gold Medal" Safety Platform Ladder is the safest step ladder you can buy. Its broad platform permits men to work safely in any direction—with both hands free. Other safety features:

1. Top slotted for tool rack to prevent injury from fallen tools. (¾" x 7" x 18")
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"Gold Medal" Safety Platform Ladder has been tested and approved by Underwriters' Laboratories, Inc., and conforms to ASA and all local safety codes. It is one of a complete line of "Gold Medal" single, step and extension Ladders for every purpose. Wood, aluminum or magnesium. Full details in free Ladder Catalog L-71-R.

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Williams Memorial Medal from the American Museum of Safety in New York and the Medal of the Conservatoire Nationale des Arts et Metiers in Paris. The presentation was made by Dr. Andre Salmont who stated that recognition by the university, one of the oldest in France, was extended because of many basic contributions to the science of preventing loss of life and property, and because of the value of the material in the book, *Industrial Accident Prevention.* A translated version is a standard text in the university.

In his extensive research, Mr. Heinrich has developed a ratio of direct to hidden cost of accidents, an accident sequence, a ratio of major to minor injuries, causes of accidents, an accident cause code, a boiler and machinery cause code, a subject outline and teaching methods for accident prevention and supervision and an analogy in supervisory control methods for safety and production.

He is a native of Bennington, Vt., and prior to entering the insurance field, he was employed in wood and metal working industries, in tool design and toolmaking, in locomotive repair and maintenance and in marine engineering.

Following his retirement from The Travelers, Mr. Heinrich and his wife will leave on an extended trip to Spain, Italy, Turkey, Austria and France.

Upon his return he will join the staff of a non-profit and non-political organization headquartered in New York City. He will serve as president and chairman of the organization which promotes the uniformity of laws governing the safe construction, installation and operations of steam boilers and pressure vessels in United States and the Canadian provinces. His appointment is effective June 1.

Don't Get in a Rut

—From page 70

pare a new commentary directly to the pictures, adapting it to the specific audience.

Motion Pictures

A motion picture is by far the most expensive form of visual presentation, if you consider only initial cost of production. In some cases, this high cost may be justified, but normally it is considered useful only when there is to be mass distribution. I have known of films that were made for a potential audience of one man, and well worth their cost, but this is the exception. Generally speaking, however, a convention is the logical place to give a new film its first showing. This is the quickest way to reach the key audiences in your industry.

In some instances a film prepared for one purpose can be used at a convention for an en-

In the silence of the night

the watchman makes *his* rounds while the hands on his CHICAGO Watchclock make *their* rounds.

In the morning, there is a permanent dial-record of exactly where the watchman was during each hour...in the silence of the night.

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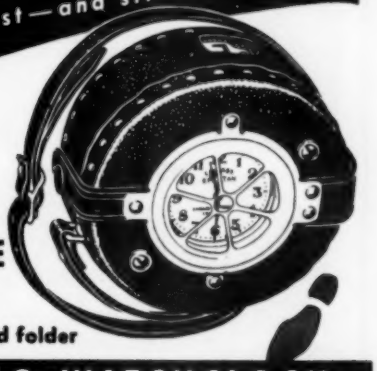
CHICAGO WATCHCLOCK

The first—and still the first



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tirely different end. If you have an unusually good speaker on tap, you might consider this approach, for it has occasionally proved effective. Run the film without the sound track, but let your speaker sit where he can see it, with a microphone connected to the loud speaker, and let him ad lib. For example, in telling the members the reasons for making a promotional film, how it was done, or how they can tie in with each sequence, this technique could be highly useful.

We should also consider the use of the overhead transparency projector. This device projects a large transparency from a flat surface, placed at the speaker's position, onto a screen in the standard position. It requires special slides, but these can be made by any photographer. It has the advantage of enabling the slide handling to remain under the complete control of the speaker. It also allows him to face his audience at all times and he can point to the screen without turning around; thus, he is permitted a limited amount of animation in his presentation. The overhead transparency projector can be used for fairly large audiences, perhaps in the neighborhood of 1,000, and is equally effective when working with a group of 30 or 40.

A number of factors enter into planning the use of visuals in a meeting. One is cost, which has to be considered in relation to the end desired. Another is the audience characteristics, such as size, type of room, interest in the program, background, and so on. Another consideration is the nature of the ideas to be communicated. Which method will do this most effectively?

Finally, each session must be considered in relation to the overall program. Convenience in having only a limited number of devices with which to struggle must be balanced against the value of variety in presentation. But whatever method is finally chosen it is wise to make sure that everything fits together, and that all the details are checked off well in advance.

Don't wait until time for a movie showing, for example, to discover that there is nothing but direct current in the hotel, and your projector, alas, can use alternating current only. It isn't funny, as one man found out when he wanted to show a very important film to a Senate committee. Next time he'll check before the meeting!

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Hot wash an entire engine block or 200 lbs. of Parts
FAST!
DOES IN MINUTES WHAT FORMERLY TOOK HOURS!
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"I gave him a good one like you said!"

Diary

—*From page 42*

lem, and it will take a good man to see them developed properly. There's no top-level antagonism to buck now, but there is top-level inertia to overcome and ignorance to inform."

"Can you get us a good man?" the vice-president asked.

I thought that one over before answering, too. Finally I said, "It may not be easy. There are, I suppose, 50 men in the country who are really able to step in and carry through a program like that. I know perhaps half of them —10 of them well enough to be sure of them. Most of them probably have no desire to change jobs. None of them would be cheap."

"It would not be a permanent thing," he said. "We only want to borrow you for a few months. Then, in all probability, you would go back to Exsteel."

"That makes it tougher," I said. "None of these men would be interested in a temporary job filling in for another man."

"Suppose we said that it was for a year, with the commitment that we would find a good permanent assignment for the man at the end of that time, assuming he proved up to our standards."

I haggled over that with him, wanting assurance of the good faith of the commitment and the assurance that the permanent assignment would be something to attract and hold a good man. The Eastern man described two new plants that would be opening in about a year. They sounded good enough to make me want to apply for the jobs—but I didn't. I said I thought we might get a man.

Finally the v-p got down to cases on what he wanted of me.

"Eastern," he said, "is not a super-corporation. You will have noticed that, I'm sure. We do not get involved in detailed supervision of operations of our affiliated companies. We are a very loose federation of operations, and our headquarters staff is not large. We may intervene in crises—yes, you've seen that process. But we are not a top-heavy bureaucracy wading through lengthy reports and firing memos to all and sundry at a rapid rate.

"Our technique is to drive with a very loose rein indeed. There are several reasons for this—legal, financial and practical.

"We have never had any general safety department, and we have no plans for creating one. But we think it would be desirable to take a man with a well-rounded background in safety and give him a most informal assignment of looking over our operations, suggesting improvements, conferring with us here, sitting in on the extension planning board, making personnel and training suggestions. Really, you know, it's all a little vague in our minds. We would expect you to define the terms of the job in detail yourself."

I interrupted, "That sounds like a permanent assignment, but you spoke of my going back to Exsteel."

"All in good time," he said. "It

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SAFETY GOGGLES
for *Complete* Protection!

The comfortable-fitting *707S* is highly recommended for use in hazardous areas where complete protection is required. This spectacle-type goggle is equipped with hardened safety lenses, and either flesh or green plastic frame and side shields.

Other models—without side shields—are also available where frontal protection only is required. They are available with *flesh, bronze or green frames* to suit personal preferences. There is a choice of cable, spatula or riding bow temples and a wide range of eye and bridge sizes. All of these fine properties are particularly suitable for safety prescription eyewear.

Write us for complete information on Sellstrom Safety Goggles.

- Send for our new brochure No. 34A, or request general catalog No. 32 for information on Fibre Glass and Fibre Welding Helmets, Face Shields, Respirators and other Sellstrom safeguards.

Write for name of nearest distributor.

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is likely that Exsteel, for which, I can tell you in confidence, we have some rather ambitious plans, will need you back. It may be that we will not feel the need for continuing the work here at headquarters. I rather hope so, frankly. If we do need to —" he shrugged.

"You will get yourself a bright Harvard business administration major to handle it," I said a little bitterly.

"No," he replied, "probably an MIT. man with quite a lot of math."

I felt a little small, with my BS from a fresh-water engineering college, and a little irritated at the same time. It must have shown, for he said,

"This is a pioneer job. We want a practical man with vision, not a theoretician. At least at the start. Because you are that kind of man, we need you. And also because you are that kind of a man, we don't want to remove you permanently from the front-line job. You belong in a plant—and we propose to send you back there. But meantime —"

I remarked that neither I nor my wife would look kindly upon a job that kept me on the road constantly. He replied that my wife would like what it meant financially.

Quite frankly, my mouth was watering. I've always had a vast curiosity about the work of other safety men. I've been a ruthless borrower of their techniques. Also, I like to teach what I know to others, so I've repaid the world for some of the borrowing I've done. This job looked like a tremendous opportunity to broaden my knowledge of the field, and at the same time to bring some clear thinking into situations where safety programs have been backward, inept, or half-hearted.

So, I agreed to try to line up a replacement. And that job is now done. Jim Mason is due to report in two weeks—Jim who was my assistant at Jackson-Barnes, and then went off to become safety director of a good plant on his own.

It took a lot of talk to convince him. "Boss," he said, "I owe you a lot. I learned the trade with you, learned it well. But I've almost as much experience behind me now as you had the day you hired me. I've liked being my own boss. I don't want to step down now to being an assistant again. Not even for the kind of money you're talking."

I went over it all, carefully. He would take over Exsteel from me for a year. He was free to make changes in the plans and program. I would guarantee to get out of the shop and stay out, after a short briefing period. After a year he would go out to a job completely independent of me in a plant of nearly as large employment as Exsteel has.

He bought it, after taking a week to think it over. In another week or so I'm off on the curious travels of a roaming safety man, without a title, without authority, without any defined responsibility. All I will have is entree into the various operations Eastern calls affiliates and some undefined share in the influence that East-

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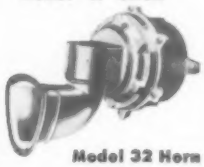
A life saved or an injury prevented will more than pay for a signal or signalling system. Almost all FEDERAL signals for warning will do double duty! Additional utility from such devices is an ever available bonus for your foresight! Lights can be flashed intermittently to attract attention. Horns and bells can be coded to summon personnel. Sirens can be given short test blasts that also serve as start and dismissal signals. FEDERAL offers the widest variety of industrial signals for safety services and most of these can do double or even triple duty without impairing their primary safety function.

Our new bulletin 100 will make you an expert in selecting signals — ask for it today.

Heavy duty Bell

Model "A" Siren


Model 32 Horn

Model 27-S
"Beacon-Ray" light

FEDERAL SIGN and SIGNAL Corporation
8725 S. State Street, Chicago 19, Illinois

ern Enterprises wields over its industrial empire.

It should be a strange adventure, and I am pretty sure it won't be dull.

Eight Challenges

—*From page 19*

manufacturers to continue this program. We should also see that our own automobiles have every safety feature incorporated in them.

5. Management's Part

The next challenge for safety involves my own group in industry. It is that members of top management not only back company safety programs but participate actively in them. We cannot make the utmost progress in reducing accidents, either on the job or off the job, without this participation. Accident control must be integrally a part of every production operation. To achieve this goal it must not only start at the top but must be constantly pushed by top management.

Our participation shows supervision and employees the importance being placed on safety by top management. In addition, it improves the caliber of safety work done by all members of the management team. Most important, it indicates that safety work is an essential part of the management job—not something to which mere lip service is given.

Plant and division heads are the key people in accident prevention work and they must attend and participate actively in our safety meetings and other activities in their plants or divisions. Safety is one of their major responsibilities.

6. The Professional Safety Man

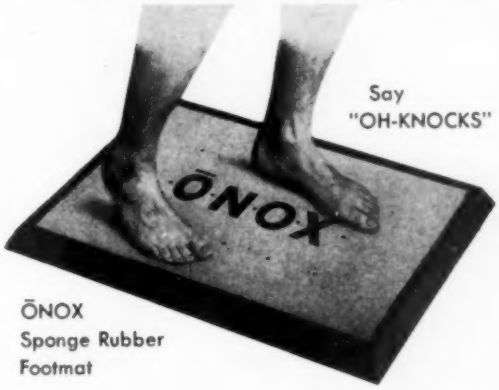
Our next challenge has to do with safety engineers and safety directors. As a group, they must continue to increase their technical knowledge if they are to cope with increasing hazards and responsibilities.

In addition, professional safety people must become even better versed in selling techniques. No matter how much you know about safety, you can make little progress unless you can get the message over to supervision and employees. The most perfect forward pass has to be caught to score a touchdown. To make a touchdown in safety, you must make safety sales to supervision, to employees, and sometimes to top management.

I recommend some of the techniques used in advertising and sales. Displays, scoreboards and other visual aids must be unique, eye-catching and convincing. It is hardly necessary to mention the importance of keeping such displays attractive and changing them frequently.

It is also important to do an excellent selling and training job in safety meetings. Meetings must not become routine. They should include such techniques as role playing, discussion of case histories of accidents, and films,

74% USE ŌNOX®
TO STOP ATHLETE'S FOOT



Say "OH-KNOCKS"

ŌNOX Sponge Rubber Footmat

74 of the 100 Largest Manufacturers use ŌNOX SKIN-TOUGHENER

Modern research has upset old theories about Athlete's Foot control. Skin specialists have proved that the best way to prevent Athlete's Foot is to improve the condition of the skin. *That's what ŌNOX does.* ŌNOX mineral salts toughen the skin and make it resistant to fungus growth.

No splash • No mess • No waste • Odorless
Easy to maintain • Nothing to get out of order
Men like ŌNOX • Relieves tired, aching feet

60 DAY TRIAL OFFER
We will ship your trial order for any amount of ŌNOX and footmats. *You pay nothing* unless fully satisfied after 60 days' use.

ŌNOX, INC.
DEPT. F, 121 SECOND STREET
SAN FRANCISCO 7, CALIF.
• WAREHOUSES •
BROOKLYN • CLEVELAND • NEW ORLEANS
HAWTHORNE, CALIF.

charts, and other visual aids. Contests are being used extensively in advertising. To be effective they must be unique, well publicized, and easy for everyone to participate in.

7. Employee Relations

A challenge that faces industry increasingly is the maintenance of good employee relations. I never give a safety talk without stressing the fact that a good safety program is one of the finest ways of improving employee relations.

The fact that a company and its management are interested in the safety and well being of employees can have only a good effect on employees. The safety contact between the supervisor and the employee is most important from the human relations standpoint because the subject is non-controversial.

8. The Cost of Accidents

The last challenge has to do with reducing the costs of accidents. The most serious result from an accident is the suffering and hardship inflicted on the employee and his family. However, there are other costs that can be measured in dollars and cents.

Management must recognize the fact that accidents are becoming more and more expensive due to increases in workmen's compensation benefits and to increases in medical costs. Without question these costs will continue to increase. From the financial standpoint alone it becomes more and more necessary to prevent accidents.

In addition, the indirect costs, such as training replacements and paying for time lost from work by other employees are increasing tremendously. The trend of industry is toward the use of more and more skilled personnel to operate and maintain equipment. Because of the need for more training to acquire these skills, loss of an employee from work because of an accident, on or off the job, is becoming ever more costly.

Years ago a plant owner might have been heard to say he couldn't afford to spend money for guards or protective equipment. Today accidents are so expensive that no company can afford not to have a good safety program.

This fact is recognized by most companies today. They are taking action to meet this challenge by intensifying their safety programs through the use of proven techniques.

WISE TO CHOOSE
SAFE TO USE
THOSE IN THE KNOW
. . . PREFER
Install K-LENS-M Lens Cleaning and Anti-Fogging Stations for clean, clear vision . . . for all types of safety eyewear, glass or plastic.
More Efficient—Lower Cost
Send company letterhead for FREE sample and complete information.
K-LENS-M
REG U.S. PAT. OFF.
The Acknowledged Leader in the Lens Cleaning Field
The WILKINS Co., Inc.
Cortland 1, N. Y.
©1955

"That's the fourth time today—maybe we should let him go home to sleep it off!"

A Personal Affair

—*From page 92*

marily for discussion among supervisors of working conditions on divisions or at terminals, but are open to all employees.

A typical committee meets an hour (on their time) once a month, coming up with such suggestions as: "placing oversize loads on clean-out track;" "coupling freight house blind;" "baggage room should have fire extinguisher," etc. Every railroad department is represented.

At a recent safety meeting an employee stood up and said, "I like to feel that, as a safety committeeman, I am doing something for the other fellow." That may explain the power of these committees in personally promoting safety.

The safety department is proud of letters from the brotherhoods commending management for prompt action on suggestions that come straight from the men.

Eighty-two dinners were held during the year with 1,790 safety committeemen attending to discuss safety practices for transmission to employees.

Reaching toward a more safety conscious nation of adults tomorrow, Frisco personnel conducted 233 meetings in schools, contacting directly 86,232 students with films, illustrated talks and literature on safety. This was more than twice the number of meetings and attendance reached in 1954.

Also, safety supervisor participated in 10 Boy Scout meetings attended by 1,862 Scouts. Through safety advisory roles and Scouting tours along the System, the Frisco is expanding its activities in the field of youth.

Safety received good newspaper, radio and television coverage during 1955. Included in this coverage were radio broadcasts beamed from family safety rallies and special broadcasts by safety supervisors and officials.

As a thoughtful supplement to the safety program, Frisco men talked to some 405 school bus drivers regarding safe driving practices and the care of their young passengers.

Two special television appearances were also arranged. Here again, carrying out the policies set by the safety department, it was the employees themselves who earned public recognition for the Frisco's civic minded on-job and off-job safety programs. Newspaper editorials commended their efforts and employees in turn used letters-to-the-editor columns to spread the safety message.

Conspicuous among the media used in the safety program is the Frisco's magazine, *All Aboard*. Throughout the year it is consistently behind the company's efforts and the April 1956 issue carried a full-length feature story and an editorial in tribute to the safety department. The safety department staff is constantly looking for fresh and newsworthy ways to get the program across and the editorial-safety partnership has been unusually effective.

In a program guided by the company's policy of delegating

Reduce Accidents with
E-Z PULL

PATENTED

The FIRST loadbinder designed for SAFETY

Patented cam action eliminates dangerous kickback and snapdown.

Easy action eliminates need for accident-causing cheater bars.

The first new loadbinder design in twenty years—it's safe to operate.

Write today for folder No. 81 and name of nearest dealer.

Organized for Service

Texas Foundries
LUFKIN, TEXAS

Free sample when requested on company stationery.

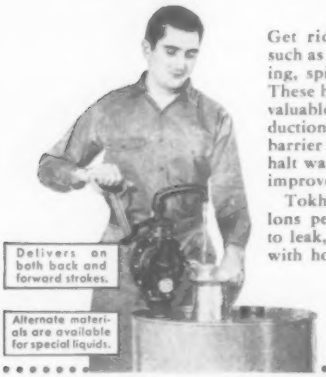
CUT DOWN NOISE
WITH THE SMR
EARSTOPPER

Soft, comfortable, resilient, the SMR EAR STOPPER adjusts itself to all shapes, turns and movements of the ear canal. Will not slip out of the ear. Has a long life and is reasonable in cost. Furnished in a plastic case. Forty-five cents per set in gross lots.

SURGICAL MECHANICAL RESEARCH INC.
1905 Beverly Blvd., L. A. 57, Calif.
SMR

Pump- don't slop

INDUSTRIAL LIQUIDS



Delivers on both back and forward strokes.

Alternate materials are available for special liquids.

Get rid of antiquated methods such as pouring, drawing, siphoning, spigoting. Install Tokheims! These high-vacuum pumps are invaluable in maintenance and production work; they help build a barrier against fires and accidents, halt waste, speed production, and improve housekeeping.

Tokheims deliver up to 20 gallons per 100 strokes. No piston to leak, stick, or freeze. Available with hose or spout outlets.

Call your dealer, your Tokheim representative, or write for literature.

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TOKHEIM CORPORATION

Designers and Builders of Superior Equipment Since 1901

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Factory Branch: 1309 Howard St., San Francisco 3, Calif.

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QUALITY TOKHEIM HIGH VACUUM HAND PUMPS

FREE! First Aid Film "Help Wanted"

Including the new back-pressure, arm-lift method of artificial respiration

This up-to-date film contains all of the important information on basic principles of First Aid and also demonstrates new artificial respiration method approved by the American Red Cross.

The only cost for this 34-minute 16-mm. sound film is return postage.

Johnson & Johnson

Education Department
Johnson & Johnson, New Brunswick, N. J.
Please send me information on the film "Help Wanted."

Name_____

Address_____

City_____ **State**_____

rather than centralizing authority, the supervisor plays a role of major importance. The actual safety of the employee is his responsibility.

"I personally believe the average employee considers his immediate superior — rather than top management — to be 'the Frisco,' because the average man seems to work for his boss, not the company. This means that the sincerity of the supervisor is paramount. Employees cannot be fooled for long—and that holds true not only on a railroad but in any kind of organization."

While safety on the Frisco starts at the top, the safety department had a free hand in setting the pattern of work and carrying it out. President Hungerford picked the man for the job and told him what he wanted. There has never been any doubt of his personal interest in the work and his door has always been open for consultation.

The Frisco's pioneer work in the family safety idea in industry has not gone unnoticed. In 1951 and 1952 the system won the National Safety Council's Home Safety Award for its family programs. The home program expanded into so many schools and civic groups that the system won the Council's broader Public Safety Award in 1953 and 1954. The Frisco became the first railroad able to fly the Council's pennant for these awards.

List Responsibilities For Smog Research

THERE IS STILL so much to be learned about controlling smog that government, industry and the community at large can each assume responsibility for separate fields of needed research without any duplication of effort.

This perspective of the modern smog problem was sketched by Dr. W. L. Faith, vice-president and chief engineer of the Air Pollution Foundation, at the 18th annual meeting of the American Power Conference at Chicago.

Addressing a special session of the nation's leading power plant engineers, Dr. Faith spoke on "Air Pollution Research—Whose Responsibility?"

He suggested the following division of responsibility for continuing smog research:

—Local government should be responsible for determining the rate and type of emissions of air pollutants from local sources, and for monitoring the atmosphere for important contaminants.

—Federal and state governments should have joint responsibility for determining the relationship between air pollution and public health, for determining the maximum allowable concentrations of air pollutants under various atmospheric conditions, and for determining the nature of smog problems which transcend political boundary lines.

—Each industry should determine the nature of its own emissions, develop control devices, improve its fuels and combustion equipment, and support community-wide programs aimed at solving the air pollution problem "beyond its own gates."

—The community at large (including all segments of business and commerce, industry, government and the public) should provide for coordination of research activities so that no phase of the problem is overlooked, provide also for impartial studies to assess the nature of the local problem and means of alleviating it, and provide for authentic public information "to allay the unfortunate emotional outbursts that so often hinder progress."

"He's been a great success in handling the women in his department."

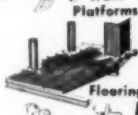
FOR MAXIMUM SAFETY

all over your plant use Safety GRIP-STRUT

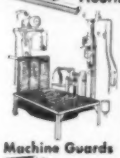
Pat. Pending

the new basic material, all in one piece (including channels), not welded, riveted or expanded in steel or aluminum, in standard sizes and gauges. Safety GRIP-STRUT presents an open space, in a diamond pattern, in excess of 55% of the area for ready access of light and air and gives a positive NON-SKID footing in all directions. Ideal for work platforms, stair and ladder steps, flooring, balconies, catwalks, machinery guards, fire escapes and for original equipment safety treads.

Work Platforms



Flooring



Important Safety Features

- ★ Fire proof
- ★ Slip proof
- ★ Maximum strength
- ★ Minimum weight
- ★ Easy to stand on
- ★ Cool in summer — warm in winter

Big Economy Features

- ★ For balconies — no extra light needed below — no extra heat.
- ★ No extra supports necessary — channels are integral part of the material
- ★ No secondary sprinkler heads needed
- ★ Self-cleaning
- ★ Cut and installed like lumber by your own maintenance force
- ★ Low in original cost

Machine Guards

Balconies

Distributors in all principal cities. Consult yellow pages in phone book under "GRATING."

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SEND FOR NEW CATALOG

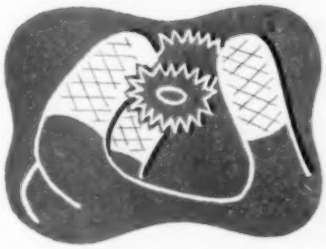
GRIP-STRUT division

THE GLOBE COMPANY • *Manufacturers since 1914*

4018 S. PRINCETON AVE. • CHICAGO 9, ILL.

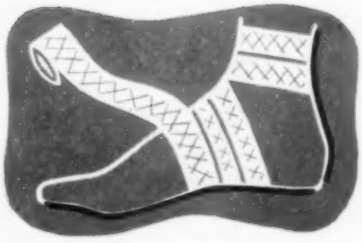
GAUZTEX Helps You 2 Ways

IN PRODUCTION



Gauztex protects fingers. Handling of sharp or abrasive objects speeds up with Gauztex wrap-around protection. Sticks only to itself and lets skin "breathe." Gives a sure grip and natural feel. Send for FREE sample to test under your own conditions.

IN FIRST AID



Bandages better and faster. Sterilized Gauztex is widely used by industrial doctors and nurses. Neat and compact, it sticks only to itself. Saves time in applying and removing. Promotes healing by letting skin "breathe." Regular or oil-resistant. Send for your FREE sample.

GENERAL BANDAGES, INC., DEPT. NS-6
531 Plymouth Court, Chicago 5, Ill.

Please send information and sample roll of:

☐ Industrial ☐ Sterilized GAUZTEX

Firm_____

Name and Title_____

Address_____

City_____ Zone____ State_____

Wire From Washington

—From page 46

Message, was stated as follows: "If the various government agencies are made conscious of both the incidence and costs of accidents in employments within their responsibility, more effective safety measures would be adopted and the number of accidents accordingly reduced". The bill would also, according to its sponsors, enable Congress "to evaluate the progress of agencies toward safer practices."

Aviation Safety. The Bureau of Safety Regulation of the CAB issued its proposed agenda for the 1956 Annual Airworthiness Review meeting to be held in September, and invited comments. The CAB also issued new regulations establishing safety criteria for electric utilization systems.

The CAA issued a 5-year Federal Airways Plan, intended among other things "to handle safely a greatly increased flow of traffic."

Statistics. S. 3076, the National Morbidity Survey Act, to authorize a continuing study by the U. S. Public Health Services of illness and disability, which had been passed by the Senate (See WIRE, May 1956), was favorably reported by the House with amendments to strengthen the requirement upon the Public Health Service to cooperate with and use the facilities of other public and private agencies.

In this report, the House Committee on Interstate and Foreign Commerce stated that present accident statistics on non-fatal injuries are based on a 20-year old national health survey or upon localized studies. The Committee said: "No one knows how many persons are injured in automobile accidents in the United States a year. . . . Figures on accidental injuries on farms . . . are nonexistent. . . ." One of the Committee's reasons for reporting the bill was that "Private health organizations and agencies have equally pressing needs for such information. For example, industrial health and safety programs could be redesigned to reduce the major causes of industrial accidents and absenteeism."

National Safety Congress

—From page 31

A new arrangement which will be welcomed by visitors and exhibitors alike will be improved exhibit space to facilitate the flow of delegates and avoid crowded conditions near the grand ballroom of the Conrad Hilton Hotel. A total of 247 exhibits will be displayed. Another change affecting the exhibition is the decision to close the exhibits Thursday evening instead of on Friday as during past Congresses.

Hotel reservation blanks have been mailed and delegates are urged to send reservations as early as possible to be certain of good space. Those who have not received registration forms should write at once to The Housing Bureau, National Safety Council, 425 North Michigan Ave., Chicago.

Use The Right Glove For Your Job!

Let PIONEER's "Hand Protection Clinic" help. Send (Attn: Hand Protection Clinic) a complete job description on your company stationery, including dexterity and abrasion resistance requirements, and complete description of chemicals or solvents used. Our solution of your glove problem will assure you of maximum worker protection and comfort at the minimum cost.

Complete PIONEER Catalog available on request

New Flock-lined Neoprene Stanzoil Glove withstands oils, acids, greases, caustics and solvents. Combines dexterity with comfort.

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237 Tiffin Rd. • Willard, Ohio, U.S.A.

Pioneers in Industrial Hand Protection For Over 35 Years

THE LOW COST
NO MAINTENANCE
NOISE ABSORBER

QUIET FACTORY NOISE with SONOSORBER*

GUARANTEED RESULTS! FREE ENGINEERING SURVEY, ANALYSIS and ESTIMATES. *Write Today.*

*REG. U.S. PAT. OFF.

ELOF HANSSON, INC. ACOUSTICAL DEPT. NS6-6

220 EAST 42nd STREET, NEW YORK 17, N. Y.

Watch Those Eye Trays

—*From page 67*

for many years, and in spite of our strict observance of *not* using stock bottles or droppers we do occasionally find a contaminated solution.

The preparation most quickly contaminated is fluorescin. It is our belief that having a stock bottle of this product on the eye tray is improper. Fluorescin now obtainable in sealed plastic dropper-bottles is much safer.

Also available now are autoclaved strips of fluorescin-impregnated paper designed to be placed near fornix in the lower cul-de-sac, and then disposed of.

However, an even greater contribution to avoiding complications is to use less fluorescin. Actually there are very few instances in which a doctor, nurse or aid in a plant dispensary really needs to use it. If a foreign body has been removed there is no need to stain, as one knows in advance that the remaining small abrasion must stain.

The proper follow-up after removal of a foreign body is simply to insert a small amount of ointment (which should *not* be an antibiotic nor include an anesthetic, and therefore I prefer 30 per cent sulamyd); then ask the patient to report within 24 hours.

If good illumination and magnification are available (as they should be) even tiny abrasions of the cornea where a foreign body has struck or lain are visible *without* the use of fluorescin.

Tied very closely into a discussion of actual contamination by external means is the recognition of a new hazard resulting from excessive use of antibiotics in the eye. Ophthalmic antibiotics should not be sold across the counter, nor used promiscuously. It is felt, and drug houses have encouraged the thought, that added protection is given if antibiotics are used immediately.

Matters work out differently, however. Indiscriminate use of antibiotics has actually increased the danger as serious secondary infection, especially of minor corneal abrasions. One reason lies in the fact that streptococci and staphylococci of low patho-

SPA-FLA Gives you ... WELDING PROTECTION and SAFETY!

Trade Mark Reg. Pat. Applied for

UL APPROVED

LOW-COST PORTABLE SAFETY WELDING SHIELD

Here is lightweight portable welding shield that is flexible for shaping around even the most out-of-way welding areas, and yet is ruggedly constructed for long hard use.

SPA-FLA PROTECTIVE PRODUCTS

Welding Curtains, for all booth and production welding protection.

PROTECTIVE COVERS

Asbestos Heat Curtains, fabricated into fire blankets, covers, curtains, etc.

SPA-FLA with RAY-TEX the new Industrial Protective Aluminum Coated Fabric.

ON THE JOB-PORTABLE WELDING PROTECTION

SPA-FLA SHIELD AS PART OF YOUR WELDING CART

The last word in welding and safety and portability is SPA-FLA as part of your on-the-job maintenance welding cart. SPA-FLA is easily carried from job to job, and should be the safety habit of every maintenance welder.

FROMMELT Industries

Box 165-N, Dubuque, Iowa

Hours of Protection from **INSECT BITES**

with

6-12 **Insect Repellent**

Now workers can stick to their jobs without worrying about insect bites.

"6-12" Insect Repellent STOPS mosquitoes, gnats, and black flies from biting. Keep workers safe and production up. Supply "6-12" Insect Repellent in 2-oz. bottles and 1-oz. sticks. Order "6-12" Brand in minimum 3-dozen lots from local drug, hardware, and sporting goods jobbers.

Where outdoor workers remain in limited areas, order "6-12" Insect Repellent in gallon cans for use in liquid soap-type dispensers. Ask us for details.

Use this coupon for free samples and further information:

Consumer Products Department
CARBIDE AND CARBON CHEMICALS COMPANY
A Division of Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

Please send me a free sample of "6-12" Insect Repellent; ☐ Stick ☐ Liquid Please send further information on dispensers and gallon packages ☐

Name..... Title.....

Firm .....

Address .....

City..... Zone.....State.....

"Six-Twelve" and "6-12" are registered trade-marks of Union Carbide.

McDONALD PRODUCTS
Safety Designed...
with comfort in mind!

kanister kit

Instant help in dangerous situations! Weatherproof container mounts anywhere—on trucks, posts, trees, in the plant. Snaps open to release roll-up kit containing complete first aid assortment. Kit drapes over arm for easy, antiseptic, self-treatment.

Send coupon today for information and prices

Safety FROM HEAD TO FOOT
B·F·McDonald Co.
Manufacturers & Distributors of Industrial Safety Equipment

5721 WEST 96th ST., LOS ANGELES 45, CALIF.
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Please send information and prices on McDonald Kanister Kit.
NAME
FIRM
ADDRESS
CITY STATE

genicity (and other bacteria normally found in eye secretions) are snowed under by the use of antibiotics, leaving the dangerous bacillus pyocyaneus to emerge unchallenged, without its previous competition. For this dread infection there is no known treatment, and over 90 per cent of its victims therefore have great loss of vision, usually from heavy scarring.

Another reason for avoidance of antibiotics in industry is the fact that they are heavy ammunition (why shoot sparrows with a cannon) and there is a variety of simple non-antibiotic ophthalmic medication.

One other important matter to remember when dealing with eye injuries in industry: Avoid the use of cortisone with or without an antibiotic. Cortisone retards healing, slows up epithelization of even a tiny abrasion, and exposes it to secondary infection—the one thing we are trying to avoid.

By using sterile ophthalmic solutions and avoiding antibiotics and cortisone in industry we can best serve employees coming to the medical dispensary for care of minor eye injuries.

Celebrate 50th Anniversary Of Industrial Truck

The 50th anniversary of industrial truck production is celebrated this year.

The first truck, developed for the Pennsylvania Railroad by the Elwell-Park Electric Company, Cleveland, Ohio, consisted of an ordinary hand-drawn baggage truck with batteries and motor beneath the deck. Controls and steering mechanism were so arranged that the operator walked in front.

This first model was easy to start but hard to stop. After some experimentation, a mechanical brake was devised and the operator given a platform on which to ride. The original truck remained in service until recent years, and today is on permanent exhibition at the Henry Ford Museum & Greenfield Village in Dearborn, Mich.

While this model constituted the first powered industrial truck, it did not provide a means for picking up or discharging its loads.

In 1914, Elwell-Parker developed a low-lift platform truck, which featured a self-contained means of raising the load off the floor for easy transport. From this beginning, lifting heights have increased and capacities grown until today, loads up to 80,000 lbs. are not uncommon and lifting heights exceeding 200 in. have been obtained.

While the low-lift truck built in 1914 provided only a manually-operated lift, the company pioneered the first powered operated low-lift platform truck the following year.

During 1915 the first basic crane truck was developed, then the crane truck with a revolving boom, and finally a low-lift platform truck equipped with forks instead of the conventional platform.

In 1919, the company pioneered the development of the fork lifting truck which was cable operated and developed to stack iceboxes for the Frigidaire Corporation. This was the forerunner of today's universally used fork lift truck.

In 1920, Elwell-Parker developed the first front wheel drive, four wheel steer fork truck, and later that year introduced the first rotating head for fork trucks designed to handle rolls of paper.

Finally, in 1929, the company introduced at about the same time as did another manufacturer, the tilting, tiering, telescopic fork truck.

Hundreds of specially designed models for specific materials handling problems have since been introduced.

The company, founded in 1893, produced the first industrial truck in 1906. Prior to that time, the firm was engaged in the design and manufacture of electric motors and generators used on overhead cranes and electric automobiles.

The road to success is dotted with many tempting parking places.

Happiness is that peculiar sensation you acquire when you are too busy to be miserable.

For a More Successful Poster Program

POSTER program aids miniatured on this and the following pages are NEW — shown here for the first time. Those illustrated in one color are actually printed in two or more colors.

For maximum variety, refer to the 1956 Directory of Occupational Safety Posters. There you'll find 756 top-notch selections on a great variety of subjects.

Copies of the Directory are available at 50 cents each—write Membership Service, N.S.C.

JUMBO POSTER FOR AUGUST 1956

The Jumbo poster, issued monthly, is designed for outdoor use and is available to members on annual subscription but is not stocked. Its actual size is 9' 11" by 11' 8".

SAFETY BANNER FOR AUGUST, 1956

Here is the attention-getting, monthly cloth banner. Available in two types—indoor and outdoor—both are identical in size (10 feet long by 40 inches high), have the same general message and multi-color design. Indoor type is of sturdy drill with grommets for easy hanging, while the outdoor banner is of extra heavy drill, with wind vents, and has strong stitched-in rope for durability.

0780-A 8½x11½

This new four color poster is illustrative of the 72 four color posters shown in the 1956 Poster Directory.

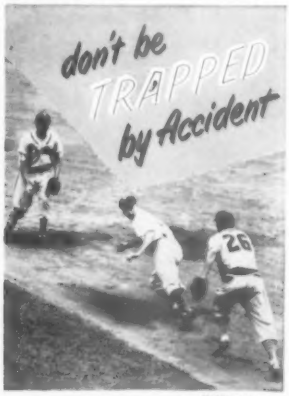
Electrotypes of poster miniatures on this page are not available, nor can payroll inserts be supplied.

Posters below are printed in two or more colors

(Available only in sizes indicated)

NATIONAL SAFETY COUNCIL

0829-C 25x38



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0795-A 8½x11½

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0796-A 8½x11½

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0761-B 17x23

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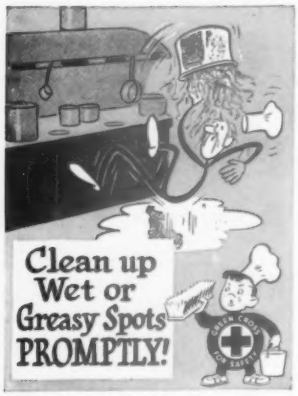
0548-A 8½x11½



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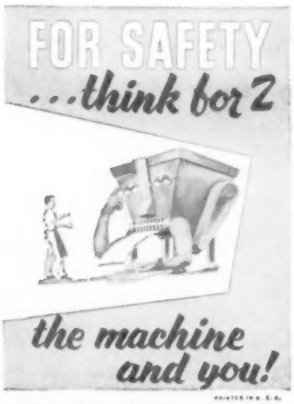

NATIONAL SAFETY COUNCIL

0686-B 17x23

Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.

Posters below are printed in two or more colors

(Available only in sizes indicated)

NATIONAL SAFETY COUNCIL

0685-A 8½x11½

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0478-A 8½x11½

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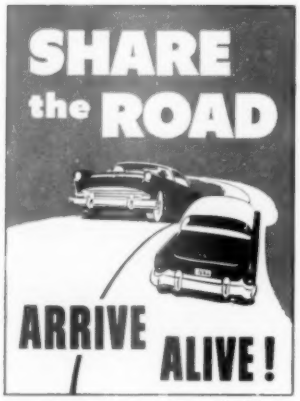
0763-A 8½x11½



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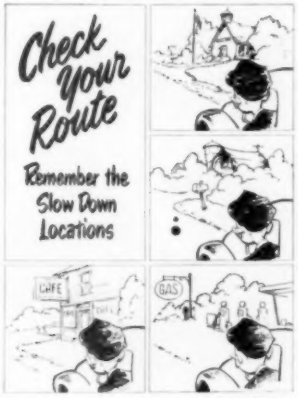
T-0736-C 25x38
T-0737-A 8½x11½



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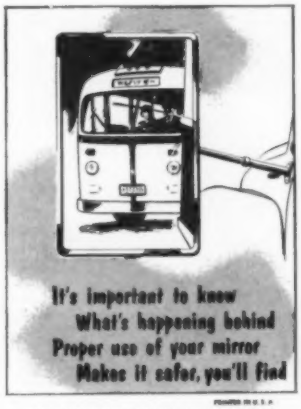
V-0787-B 17x23



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V-0786-A 8½x11½

©NATIONAL SAFETY COUNCIL

V-0789-B 17x23

©NATIONAL SAFETY COUNCIL

V-0785-B 17x23

©NATIONAL SAFETY COUNCIL

V-0788-B 17x23

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Posters below are printed in two or more colors

(Available only in sizes indicated)

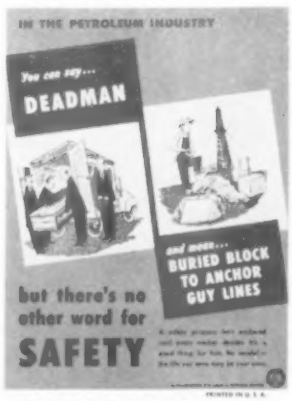
Office 1-9A 8½x11½

Office 1-12A 8½x11½

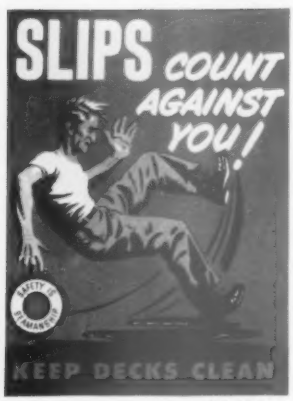
Office 1-6A 8½x11½

PTR 1-5A 8½x11½

PTR 1-10A 8½x11½

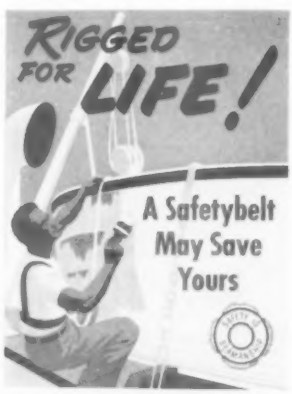


PTR 1-2A 8½x11½



MRN 1-9A 8½x11½

MRN 1-10A 8½x11½



MRN 1-4A 8½x11½

Electrotypes of payroll inserts can be furnished in all poster illustrations shown above.

WHAT'S NEW
IN
NATIONAL SAFETY COUNCIL SERVICES

Operation Safety

"Adaptability" is the keyword of the new Operation Safety program kit to be introduced in August. The "share-the-road" program has as its basic theme the need for fitting driving techniques to constantly shifting road, weather and traffic patterns.

Many drivers hurrying to work or wearily making their way home through rush-hour traffic are faced with almost every type of situation from superhighways to dirt roads, through busy city intersections to quiet suburban streets. Night workers often are forced to cope with dense fogs, mist or rain in driving to and from the plant.

August is also a popular vacation month. Vacation means, for many, a long motor trip. Again the driver faces changing conditions — expressways, rural roads and town and city driving.

The change-of-pace driver who adjusts to these conditions is the one who will arrive safely. Adaptable driving may mean cutting down on speed to match the flow of traffic, using courtesy and common sense, and sharing the road in heavy traffic or on superhighways when one slip may result in a serious crash. It means complete obedience to traffic laws, signs and signals, and flexibility to cope with any emergency that may arise.

"No Smokin'!"

The August kit contains striking posters carrying the "share-the-road" theme. These are excellent for company bulletin boards or outdoor sites, such as parking lots.

Other promotional material in the kit includes two leaflets for plant or office distribution, news releases, editorials, radio scripts, spot announcements, jingles and mats for use in company publications. Program suggestions and lists of available films and other visual aids for off-the-job safety programs complete the kit.

For further information write to Operation Safety, National Safety Council, 425 North Michigan Ave., Chicago 11.

Five-Minute Talks

A new volume, Book 6, of *Five-Minute Safety Talks for Foremen* is now available. The latest book, like the previous volumes, contains 52 talks designed to build sound attitudes on accident prevention.

Especially useful to foremen and supervisors, the five-minute talks provide ready-to-use outline and text for informal safety pep talks or scheduled training sessions.

This latest volume was written by Roland Blake, co-author of *Industrial Safety* and well-known authority on industrial accident prevention. Author Blake has drawn upon years of experience in occupational safety work to make these talks interesting and useful.

The talks include material on general topics such as attitudes, lifting and first aid, as well as information on specific problems including the use of powder-actuated hand tools, masonry chipping, caustic chemicals, explosive dusts, flammable liquids, drills, saws, and electricity. There are two talks on off-the-job safety.

Dennis the Menace

Who hasn't chuckled over the antics of that appealing little moppet, Dennis the Menace? He has captured America's heart, and his fame has been spread by Dennis Dolls, Dennis Shirts, games and books.

And now in a 16-page color-filled booklet, *Dennis the Menace on Safety*, this popular little prankster turns his talents to teaching accident prevention in a series of rollicking cartoons.

"Well, well. I wonder who left those skates there last night?"

Here is the light touch and popular appeal that drives home safety in an enjoyable and unforgettable way. Dennis' creator has spared no effort to make these special cartoons typically funny, and with the help of a few safety specialists, he has put into each a thought-provoking safety idea.

✳Look to this page each month for latest news about NSC services. Address requests for additional information, samples or prices to the Membership Department.

SYNONYMOUS WITH SAFETY

J-W COMBUSTIBLE GAS INDICATORS AND ALARMS

For testing selected danger areas, J-W portable instruments give dependable, troublefree service at low cost.

J-W Model G Portable Indicator—for easy spot checking of confined and inaccessible spaces.

Battery-operated. Soft aspirator bulb allows almost effortless sample drawing. Weighs slightly over 4 lbs. Automatically switches on and off with appropriate movement of aspirator bulb.

J-W Sentinel Portable, Audible Alarm—for continuous "watchdog" protection around any hazardous activity, indoors and out.

Indicates quantity of combustible gas build-up and loudly warns of dangerous concentration around such operations as welding and electrical repair, and when cleaning and repairing tanks and lines. Ruggedly built for versatile service.

J-W

For detailed data on these models and J-W instruments for fixed installation, contact the makers of top quality products for over 25 years:

JOHNSON-WILLIAMS, INC.

Palo Alto 9, California

Canadian customers, please write:
SAFETY SUPPLY CO.
Toronto, Ontario

Voice of the Reader

Let's have your views on current topics. You don't have to agree with us

Oil Absorbents

CHICAGO. On page 38 of the March issue under the heading "Oil Absorbents," a statement has been included indicating that we check the absorption efficiency of oil and grease absorbents. Actually, a check of absorption efficiency is not attempted in our investigation and we thought you would like to have this information for guidance in future issues.

O. A. CAVANAGH, *Service Engineer, Label Service, Underwriters' Laboratories, Inc.*

The Equipment Issue

KENOSHA, WIS. I have been wanting to tell you that I noticed the improvement in NATIONAL SAFETY NEWS. I like especially the use of color with sans-serif headlines. The type is very clear and easy to read.

Also the headlines seem to be greatly improved and tell the reader what the story is about.

The annual Safety Equipment Issue, with special index and sectionalizing with indexes for each section is certainly an outstanding job. Congratulations to all who had a part in the "new look."

FOREST J. NELSON
Advertising Manager, MacWhyte Company

Housekeeping or Housecleaning?

BOSTON. After looking through your April issue, which maintains the high quality for which it is well known, I decided it was about time for you to hear from me again.

On page 67 is an article entitled "Housekeeping Goes Scientific." This title is not only inaccurate but misleading. The title should read "*Housecleaning* Goes Scientific." There continues to be a universal misunderstanding of just what "housekeeping" is. It doesn't take much thinking to realize that the problem is tremendously more extensive than merely "housecleaning."

Are we going to be satisfied that we are doing a good housekeeping job when we find a puddle of oil or water on a concrete floor at the same spot every day by merely telling the supervisor to assign a porter to the job of keeping it mopped up?

I venture to say a lot of housecleaning of this kind is being done and everybody assumes it is "housekeeping." As a matter of fact, if we want to keep the floor dry—on the basis of housekeeping—the smart thing to do is to find out where the oil or water is coming from and eliminate the puddle at its source.

This sounds so elementary that it is almost funny. It just goes to show how wrong people can become when they fail to remember simple, fundamental definitions and the world shaking truth that two plus two still equal four.

ROBERT CLAIR, *Assistant Vice-President, Liberty Mutual Insurance Co.*

The President's Medal

Awards made by the National Safety Council for successful application of artificial respiration

EDWIN E. ALLEN, packer, General Electric Co., Columbia City, Ind.—drowning.

JACOB PHILIP SCHASSBERGER, supervisory street foreman, Public Service Electric & Gas Co., Bergenfield, N. J.—gas asphyxiation. Certificates of Assistance to FRANK JAMES SMITH and THOMAS LOUIS FORMOSO.

MILTON W. DENSON, rotary driller, The Texas Company, Houma, La.—drowning.

MISS CAPPI STEPHENS, clerical employee, State of Washington, Olympia, Wash.—drowning.

Outstanding Films Win Safety Awards

EIGHT MOTION PICTURES and one sound slidefilm have been named as the outstanding accident prevention films produced in 1955. In addition, certificates were awarded to 13 motion pictures and two sound slide films.

Winners were selected by the National Committee on Films for Safety. This committee, which represents 28 national organizations, makes annual awards for safety films in the fields of occupational, traffic, home, and general safety.

Chairman of the committee is John B. McCullough of the Motion Picture Association of America; and the secretary is William Englander, National Safety Council.

Other member organizations are as follows:

American Association of Motor Vehicle Administrators
American Automobile Association
American National Red Cross
American Public Health Association
American Society of Safety Engineers
American Standards Association
Association of Casualty & Surety Companies
Association of Safety Council Executives
Automotive Safety Foundation
Inter-Industry Highway Safety Committee
International Association of Chiefs of Police
National Association of Manufacturers
National Association of Automotive Mutual Insurance Companies
National Association of Mutual Casualty Companies
National Fire Protection Associations
National Retail Farm Equipment Association
U.S. Bureau of Public Roads
U.S. Jr. Chamber of Commerce
U.S. Department of the Air Force
U.S. Department of the Army
U.S. Department of the Navy

Following are the 1955 winners of plaques and certificates:

OCCUPATIONAL

Motion Pictures—Non-Theatrical

PLAQUE

The Days of Our Years, produced by Dudley Pictures Corp., for Union Pacific Railroad Co.

Ground Safety On the Flight Line, produced by Sam Orleans & Associates, Inc., for U. S. Air Force.

AWARD OF MERIT CERTIFICATE

Assignment Safety, produced by Parry Films Limited for British Columbia Lumber Manufacturers Association.

Crane Operations — Safety Precautions, produced by MPO Productions, Inc., for U. S. Naval Photographic Center.

Safe Pole Climbing Training, produced by Texas Industrial Film Co., for Southwestern Bell Telephone Co.

Safe Passage, produced and sponsored by the Raytheon Manufacturing Co.

Signs Without Words, produced by Vogue-Wright Studios for International Harvester Co.

Under Control, produced by Henry Strauss & Co., for Esso Oil Co.

Soundslide

PLAQUE

Take Another Look, produced by Wright Studios for Hardware Mutuals.

CERTIFICATE OF MERIT

Look Up and Live, produced by Pearson & Luce Productions for Pacific Gas and Electric Co.

—*Turn page*

JUDGES VIEW ENTRIES in the 1956 safety film contest. Final judging took place in Washington, D. C., April 11-12 at meeting of National Committee.

✓ DUSTFREE
✓ BREAKDOWN RESISTANT
✓ LIGHTER IN WEIGHT
✓ MORE ABSORBENT

Write for
FREE SAMPLE

Mined, manufactured and guaranteed by
WAVERLY Petroleum Products Co.
1724 Chestnut St., Phila. 3, Pa.
Mine and Plant — Quality, Georgia

TRAFFIC AND TRANSPORTATION

Motion Pictures—Non-Theatrical

PLAQUE

The Case of Officer Hallibrand, produced by Wilding Picture Productions, Inc., for Pacific Gas and Electric Co.

I'm No Fool On A Bicycle, produced and sponsored by Walt Disney Productions.

Noontime Nonsense, produced and sponsored by the National Safety Council.

CERTIFICATE OF MERIT

Chain Reaction, produced by Roland Reed Productions, Inc., for American Transit Association.

Don't Skid Yourself, produced and sponsored by Aetna Casualty & Surety Co.

Lakewood Learns To Live; produced by F. K. Rockett Co., for AAA Foundation for Traffic Safety.

Play It Safe, produced by MPO Productions for Johnson & Johnson.

Soundslide

CERTIFICATE OF MERIT

Last Stop, produced by Paragon Pictures, Inc., for Zurich-American Insurance Co.

GENERAL

Motion Pictures—Non-Theatrical

PLAQUE

The Flight Decision, produced by Film Originals for National Association of State Aviation Officials & AOPA Foundation.

I'm No Fool With Fire, produced and sponsored by Walt Disney Studios.

Small Craft Safety, produced by Herbert Kerkow, Inc.

CERTIFICATE OF MERIT

Let's Think and Be Safe, produced by Portafilms.

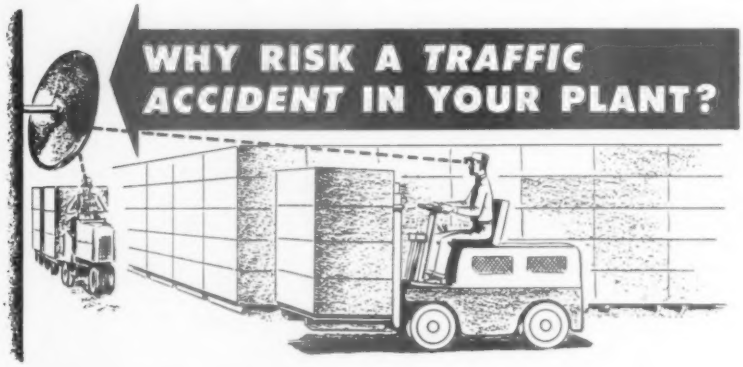
Tomorrow We Hunt, produced by New Hampshire Fish and Game Department.

HOME

Motion Pictures—Non-Theatrical

CERTIFICATE OF MERIT

You're In Charge, produced by National Safety Council.



KLEAR-VU SAFETY MIRRORS are the answer to the dangerous blind corner problem in your plant or warehouse. They are also adaptable for outdoor use in your parking lot, loading dock area or other points where traffic converges.

Mounted at cross aisle intersections, entrances and exits at a height of 8 to 10 feet, Klear-Vu Safety Mirrors clearly reflect oncoming intersection traffic to both power truck operators and pedestrians.

Style	No.	Dimensions
Circular Convex Glass	120	12" dia.
Circular Convex Glass	180	18" dia.
Circular Convex Glass	240	24" dia.
Circular Convex Glass	300M.R.	30" dia.
Circular Convex Glass	360M.R.	36" dia.
Flat Glass Rectangular	918	9"x18"
Flat Glass Rectangular	1640	16"x24"

M.R. indicates metal rim.

Available in either convex or flat glass styles, the mirrors are easily installed and quickly adjustable to any desired angle.

LESTER L. BROSSARD CO.
540 N. MICHIGAN AVE., CHICAGO 11, ILL.

Write for Bulletin.

NO-FOG

Lens Cleaning Tissues

Use Just Water, No Chemicals Needed

This new, chemically treated tissue is low in price and does away with expensive chemical sprays. Cleans and no-fogs goggles, eyeglasses and welding lenses with the addition of water only.

Tissues can be used several times.

Contact your nearest jobber or write us for samples and literature.

4 Boxes — 1000 Tissues Each
Size 4½" x 10⅜" 37.00
Dispenser Bracket for tissue .....75c ea.
Dispenser Bracket for water .....65c ea.
Water bottle with Spray Pump .....35c ea.

Distributors wanted. Write for proposition.

CARHOFF COMPANY
11706 Kinsman Ave. • Cleveland 20, Ohio

COMING EVENTS

in the safety field

June 4-8, Boston

Sixtieth Annual Meeting, National Fire Protection Assn. (Hotel Statler). Robert W. Schuette, manager, Public Relations, NFPA, 60 Batterymarch St., Boston 10.

June 5-6, Hartford, Conn.

Eleventh Annual Conference of the Connecticut Safety Society (Hotel Statler). Stephen J. Pollock, Jr. manager, c/o Remington Arms Co., Inc., 939 Barnum Ave., Bridgeport, Conn.

June 6-8, Peoria, Ill.

Thirty-third Annual Safety and Fire Protection Conference, Greater Chicago Safety Council (Pere Marquette Hotel). Joseph F. Stech, Secretary-treasurer, Greater Chicago Safety Council, 10 North Clark St., Chicago 10.

June 19-21, Harrisburg, Pa.

Pennsylvania Department of Labor and Industry Annual Industrial and Occupational Safety Conference (Zembo Mosque). Frank K. Boal, chairman, c/o Department of Labor and Industry, Harrisbrug, Pa.

Sept. 13-14, York Harbor, Me.

Twenty-ninth Annual Maine State Safety Conference (Marshall House). Arthur F. Minchin, secretary, Department of Labor and Industry, State House, Augusta, Me.

Sept. 17-19, Cleveland, Ohio.
Eighteenth Annual Ohio State Safety Conference and Exhibit (Hotel Carter). H. G. Hayes, secretary-treasurer, Suite 514, 2073 East Ninth St., Cleveland 15, Ohio.

Oct. 22-26, Chicago
Forty-fourth National Safety Congress and Exposition (Conrad Hilton Hotel). R. L. Forney, secretary, National Safety Council, 425 N. Michigan Ave., Chicago 11.

Nov. 8-9, Columbia, S.C.
Nineteenth Annual Accident-Prevention Conference (Hotel Jefferson). J. D. Watson, Jr., safety engineer, South Carolina Industrial Commission, P. O. Box 539, Columbia, S.C.

Mar. 19-20, Fort Wayne, Ind.
Northeastern Indiana Safety Conference and Exposition. Ivan A. Martin, manager, safety council, Chamber of Commerce, Fort Wayne, Ind.

Wisconsin Conferences

June 1—Foreman's Safety School, Milwaukee.
June 8—Northwest Regional, Ashland.
June 12—Wisconsin River Valley, Merrill.

For information about Wisconsin Conferences and safety schools write R. W. Gillette, executive secretary-treasurer, Wisconsin Council of Safety, 1 W. Wilson St., Madison 2, Wis.

NSC Industrial Department Sectional Executive Committee Meetings

June 5, Boston, Mass.
Air Transport Section, Logan International Airport.

June 8, Wausau, Wis.
Occupational Health Nursing Section, Employers Mutual of Wausau Insurance Company.

June 9-10, Roanoke, Va.
Fertilizer Section, Roanoke Hotel.

June 12, Pittsburgh, Pa.
Metals Section, William Penn Hotel.

June 18, Louisville, Ky.
Railroad Section, Brown Hotel.

June 25-26, Dallas, Texas.
Construction Section, Statler Hilton Hotel.

Learn from other people's mistakes; you can't make them all yourself.

1956 Directory Lists 1,200 Films

The National Safety Council is pleased to announce the availability of its 1956 *National Directory of Safety Films.*

Since the use of films is now a primary aid in teaching and spreading ideas, the Directory provides a compact source of information on the availability of films on safety, first aid, fire prevention, and civil defense which is invaluable aid to those who use films on these subjects.

More than 290 producers, distributors and sponsors of such films were contacted to obtain the information given in the Directory. Over 1,200 films are described and these descriptions include millimeter, running time, color, year of production, plus a brief story of the plot.

Each film described is available

Presenting...

THE NEW QUICK RELEASE LIFE PRESERVER VEST

A revolutionary design that has performance and protective features far beyond the ordinary life preserver vest:

- It floats the wearer in a vertical position, so that his head and shoulders are above water.
- Front pads raise up in the water to catch under the chin, and the back pad raises to support the back of the head out of the water.
- The vest is equipped with a snap at the bottom front which attaches to belt or belt loop, so it cannot float off the wearer. However, the fasteners and snap are attached to the vest with an aluminum rod, and if the wearer *must* be free of it he merely pulls on a lace attached to the rod, which draws out the rod and completely disengages all fasteners, so that the vest can be easily removed in a few seconds.
- Maximum thickness of vest at any point is 1¼ inches—gives wearer greater freedom to move and work, compared to the ordinary life preserver vest which bulks from 3 to 5 inches in thickness.
- Can be worn loosely, so that it eliminates workers' complaints of being "too hot" or "fitting too tight." It comes in one size that is easily adjustable by side straps to fit chest measurements from 30 to 56 inches, inclusive. It's lightweight, too—(only 34 ounces).

For complete details on this safer, more durable vest, write today.

SAFETY FIRST SUPPLY CO.
425 Magee Street Pittsburgh 19, Pa.

SAFETY
FIRST
YOU CAN USE THIS CHANGEABLE DISPLAY FOR SAFETY FIRE HAZARDS CLEANLINESS PLANT ACTIVITIES AND MANY OTHER MESSAGES

FOR SAFETY'S SAKE . . .
DAV-SON FLASHING SAFETY DIRECTOR
With Amazing Changeable Letter Slide Out Panel

Bright traffic light red, green spots flash "SAFETY FIRST." Color, motion, light bring eyes directly to message. Only DAV-SON has changeable letter design with removable panel for quick changes, peak attention. 98 red 3½" and 250 black 1⅞" acetate letters in compartment box incl. Size 18½x29x6. Complete with lamp and U.L. Cord. **$39.75**

Insist on genuine self-sealing cork back bulletin boards—hardwood frame. Sizes 12x18 and larger. With or without glass doors. **$4.15** up. Also with metal frames for inside or outside use.

A Dav-Son board for every purpose. Over 100 different sizes and styles to choose from. *Dealer Inquiries Invited.*

If your dealer doesn't have the Dav-Son board you need write direct.

A. C. DAVENPORT & SON, INC., Dept. NSN
311 N. DESPLAINES STREET • CHICAGO 6, ILLINOIS

L-800
THIS NUMBER
MEANS POSITIVE
ALL DUST
PROTECTION

Pulmosan
L-800
ALL DUST
RESPIRATOR

U.S. BUREAU OF MINES
APPROVAL #2160

- Approval for practically all dusts
- Black Alumilited finish resists corrosion
- Unaffected by heat, oils, solvents
- Approved filters inexpensively replaced
- All parts replaceable at low cost

PULMOSAN STOPS Accidents

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SAFETY EQUIPMENT CORPORATION
644 Pacific Street, Brooklyn 17, N. Y., STerling 9-0200
1007 Washington Ave., St. Louis, Mo., CHestnut 1-9393
Write for prices and catalog with respirator guide.

for purchase, rental, loan or long-term lease from one or more of 292 distributors making their films available on a national (or international) basis.

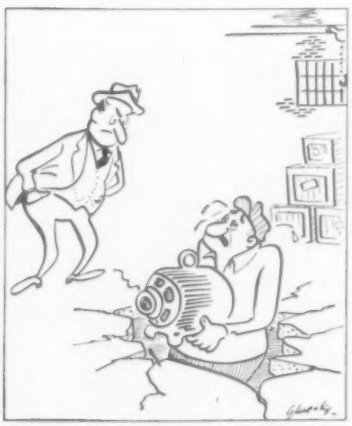
Aside from a listing of these distributors, there is a separate listing for those organizations which limit distribution of films to specific areas, both in the United States and Canada. These limited distributors usually make films available for loan or low-cost rental and are excellent sources for public safety films (traffic, home, farm, school, etc.).

The Directory is a unique publication as it gives information only on known safety films, and only on those films where there is no restriction on distribution. Subjects covered are industry, commercial transport, general traffic, home, farm, education, plus other general interest subjects. Many of the films described are cleared for television use and quite a few are for theatrical distribution.

A single copy of this Directory sells for $1.00. Quantity prices will be sent on request.

Warning Systems Can Cut Tornado Toll

TORNADOES in the United States took 1,766 lives during the decade 1946 through 1955, and inflicted injuries on approximately 10 times that many persons, according to the Metropolitan Life Insurance Company's statisticians.



"Man, this thing is heavy!"

During the 10-year period the loss of life varied considerably from year to year. Over the past 40 years, however, there has been a general tendency for the fatality toll to decrease from one decade to the next—the 1916-25 toll being 3,114, the 1926-35 figure 2,138, and the 1936-45 figure 1,896.

May was the peak month for tornadoes during the past decade, accounting for nearly one-fourth of the deaths. Fatal injuries from this cause are also quite frequent in other months of the spring and early summer.

Other facts derived by the statisticians from a long-range study of Weather Bureau climatological data include the following:

The heaviest death toll from tornadoes in the United States during the decade just ended resulted from the series of tornadoes which swept through the Missouri Valley States on the weekend of March 22, 1952, taking 208 lives. In June of the following year another such series killed 142 persons in Michigan and Ohio, most of them in the vicinity of Flint. Last year in May about 115 deaths resulted from a group of tornadoes which struck Kansas and several southwestern states.

The largest loss of the decade in a single tornado—169 lives—occurred in Oklahoma and Texas during April 1947.

Year after year, the study shows, the midwest and southwest bear the brunt of the destructive force of tornadoes. During the 1946-55 decade the four west-south-central states of Arkansas, Louisiana, Oklahoma, and Texas accounted for a loss of 813 lives, or nearly half of the total in the United States.

Although tornadoes are extremely unpredictable, the report notes, it is possible in many instances to give some advance warning to communities in their path.

"In recent years the Weather Bureau has developed warning systems in areas where tornadoes are frequent," the statisticians explain. "With further expansion of these systems and with advances in forecasting, it should be possible to reduce appreciably the death toll from such storms."

PERSONALS

News of people in safety and related activities

ANTON A. FRIDRYCH, assistant chief of the Riverside Volunteer Fire Department, has been appointed safety engineer for the Des Plaines, Ill., facilities of Universal Oil Products Company.

Mr. Fridrych joined Universal in January 1934, as a laboratory technician and became an assistant supervisor in the company's analytical and control laboratory. For the past year he also served as an aide to the late William F. Brown, for many years UOP's safety engineer.

Mr. Fridrych is well known throughout Cook and Du Page counties for his work in volunteer fire fighting. He is vice-president of the Cook-Du Page Mutual Fire Association, and is a member of the Riverside Civil Defense Board in charge of rescue and fire fighting.

He is a graduate of the Chicago Fire Department Drill School, the Civil Defense Rescue School at Olney, Md., and the Ansul Chemical Company's Fire School at Marinette, Wis.

Appointment of DR. THOMAS E. MCGRAW as Philadelphia plant medical director is announced by Roland Whitehurst, vice-president and general manager of Exide Industrial Division, The Electric Storage Battery Company. He succeeds DR. GILBERT B. MEYERS, now with Radio Corporation of America.

Dr. McGraw, who has been in private practice here the past two years, is a staff member of Frankford Hospital. Following his graduation in 1951 from Temple University Medical School he interned at Frankford Hospital and was for three years a resident in internal medicine there. He is a member of American Medical Association, Philadelphia County Medical Society and Northeast Medical Club. In World War II he served four and a half years as a navigator in the U. S. Army Air Force.

Obituaries

Death Ends Safety Man's Colorful Career

DEATH CAME on April 7 in San Bernardino, Calif., to BENJAMIN A. DE CIVRAY, a safety inspector at Norton Air Force Base since 1946 and a government employee for more than 20 years. He had been hospitalized for several weeks with a compounded heart ailment. He was 60 years old.

Receiving his training in safety engineering at New York University, Mr. de Civray at the time of his death was supervising safety inspector, Ground Safety Division. Previously he had served as employee counselor at NAFB and was once an educational adviser in the War Department. Last November he received the award for 20 years of government service.

Mr. de Civray's colorful personal background was highlighted by revolution and a heroic struggle for higher education. Born in Kazan, Russia, in 1896, he attended the Classical Gymnasium (a sort of prep school accredited by American colleges) and later studied law at the Imperial University of Tomsk in Siberia. Training at Irkutsk Military School led to a commission in the Imperial Russian Army. During the revolution in 1917 he was forced to flee the red tide of communism and found haven in Manchuria and later China, where he joined other white Russian refugees in the resistance movement.

Coming to California in the early 1920's, impoverished and without knowledge of our customs or language, Mr. de Civray undertook to work his way to citizenship and a college degree. Lack of funds interrupted his attendance at the University of California, but he went on to graduate from the University of Oregon, School of Economics. He continued his studies at Stanford and later traveled Europe while a

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student at La Sorbonne, University of Paris and Alliance Francaise, Ecole Pratique.

An accomplished linguist, Mr. de Civray was once a professor of foreign languages at San Bernardino Valley College. A resident of San Bernardino, he had lived in California for 27 years. He is survived by his widow, Eleanor, and two sisters.

GEORGE E. SEMPLE

GEORGE E. SEMPLE, 61, president of Protective Equipment, Incorporated, 634 North Orleans Street, Chicago, died April 19 at St. Francis Hospital, Evanston. Mr. Semple was active in industrial safety for some 30 years. Formerly a representative for Willson Products, Mr. Semple founded Protective Equipment, Incorporated with J. Roy Abell in 1934.

Mr. Semple was a member of the Turtle Club, Veterans of Safety, Industrial Safety Equipment Manufacturers Association, and Chicago Railway Club.

Increases Support for Smog Research

A CONTRIBUTION of $125,000, made by the nation's motor vehicle manufacturers in support of the Air Pollution Foundation's 1956 research program, has been announced by A. J. Gock, chairman of the Foundation's finance committee.

William J. Cronin, managing director of the Automobile Manufacturers Association, speaking for the industry, said the grant "symbolizes this industry's united interest in the continuing search for a solution to the Los Angeles air pollution problem."

The industry, Cronin pointed out, began taking a direct and active part in the battle against smog in 1953, when a special technical committee was set up in the Automobile Manufacturers Association to work on the problem. Since that time, automotive companies collectively will have invested more than $2 million by the end of this year in a cooperative air pollution research and development program. In addition to the work being undertaken in its own laboratories and proving grounds, the industry is cooperating on a number of projects with Los Angeles agencies and with the petroleum industry, through the Coordinating Research Council.

Cronin said a team of automotive research engineers and technicians is in Los Angeles now conducting a special traffic survey in cooperation with the Air Pollution Control District. The survey is designed to determine typical traffic patterns and driving practices in the area. This information is needed by engineers working on the development of devices for checking the emission of unburned hydrocarbons in engine exhausts.

New Record for Chemical Lab Operation

A WORLD'S RECORD for safety in chemical laboratory operation — more than 7,300,000 man-hours without a disabling injury—has been set by more than 1,200 employees of the Du Pont Chemical Department at the Experimental Station at Wilmington, Del. In so doing they beat their own previous mark of 7,188,763 hours, which, until now, had been recognized by the National Safety Council as top safety performance for chemical laboratories.

The new record encompasses more than three years. The group that made it, the Chemical Department, in addition to operating its own laboratories, also furnishes general maintenance services to research groups of the company's engineering and 10 manufacturing departments located at the Experimental Station.

Other Du Pont laboratories have set long-term records for safe performance involving a smaller number of man-hours, two having operated for more than 26 years without disabling injury. They are the Elastomers Laboratory in Wilmington, formerly known as the Rubber Laboratory, which currently has 188 employees and has completed more than 3,800,000 man-hours without a disabling injury, and the Benger Laboratory, Waynesboro, Va., with 262 employees and 6,900,000 man-hours.

At the Experimental Station, the Engineering Research Laboratory's 220 workers have gone more than 13 years, or 3,600,000 man-hours without a disabling injury.

Laundry in the Desert

—*From page 21*

LOCATED NEAR AREAS of possible contamination, hand and foot counters serve as a check to see that protective equipment and procedures have done their job.

nate the clothing. Water and suds from the atomic laundry are drained into pits and then seep slowly through desert sand and gravel. Natural decay of radio-active materials, coupled with chemical capture of radiation—emitting elements by soil constituents, renders this waste harmless.

Special protective clothing used in radiation zones include coveralls, head covers, hoods, rubber and cloth gloves, and foot coverings of various types, all of which is laundered.

Some work performed inside the laboratories and production areas requires only lab coats, while other jobs call for additional protection. In extreme cases, personnel required to work in "hot" areas don full protective outfits, complete with assault masks, hoods, one or more suits of coveralls, gloves, shoe covers, and rubbers. The clothing is worn over street clothes in areas where small amounts of radio-active dusts or vapors are present, or where workers come into contact with more commonplace caustics, acids, and dangerous or skin-irritating chemicals.

Worn only once in highly contaminated areas, protective clothing may be changed several times a day if a person re-enters a "hot" area, and the "contaminated" clothing is sent to the laundry after each change.

The plant handles every phase of laundry work, including pick-up and delivery with two ton-and-a-half trucks equipped with hydraulic lifts.

Built in 1950 at an approximate cost of $142,000, the laundry occupies 10,000 square feet of floor space and includes four 96-in. washers, one 84-in. stainless steel washer, a 120-in. dryer, a pair of 96-in. dryers, five 36-in. dryers, two 30-in. extractors, and three 40-in. extractors. Water used in the washers is maintained at standard laundry temperatures.

A staff of 56 includes 12 washing room employees, 27 radiation monitors, eight sorters and packagers, four seamstresses, three truckdrivers, and two foremen. Except for the all-important mon-

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itors, the staff is similar to that of any commercial establishment. Together, they handle from 85,000 to 90,000 pounds of clothing weekly, all washed, rough-dried, and mended.

Carl M. Unruh, a General Electric radiation analyst at Hanford's Radiological Sciences department, heads a study group investigating the problems of improving protective clothing. He points out that the problem grows larger as man probes deeper in his search for nuclear knowledge.

He remembers that "First coveralls, laboratory coats, surgeon's gloves, and other items of commercially available apparel were used to do the job. As the work became more complex and radioactive contamination more of a problem, employees donned two or three pairs of coveralls to work in the more highly contaminated areas."

The best dressed man in the atomic energy industry soon became the "most dressed man" and a study was begun to find less cumbersome garments for A-plant personnel. A partial solution was the adoption in some areas of plastic suits which clothe the wearer in a grotesque "man from Mars" garb. Although this provides greater ease of movement and better protection than cumbersome layers of clothing, heat and discomfort limit its functional wear to about 30 minutes because of the inability of the plastic material to "breathe."

EMPLOYEES WHO WORK in areas where they could be exposed to radiation wear radiation-sensitive badges and pencils at the Hanford plant.

"We're looking for a waterproof, comfortable garment, tough enough to stand the decontaminating process and provide positive protection from dust-laden radioactive particles," Unruh explains.

Major advances in design and development of radiological protective clothing are expected to evolve from new specifications now that leading garment manufacturers are aware of the unique requirements of atomic products production. The ultimate goal may still be far in the future.

"We hope someday to get a disposable garment which meets all of our high standards, yet is inexpensive and can be thrown away after each wearing," Unruh predicts.

Despite attention given protective clothing, only 30 per cent of the total workers in production areas ever has occasion to wear it.

Oddly enough radiation from extremely radioactive sources is not the constant problem that radioactive contamination is. Heavy shielding around radiation sources restrains atomic rays. "Hot" machinery and materials are handled by "slave equipment" —remote control machines with mechanical hands sealed up behind thick metal and concrete shielding. When atomic workers are of necessity exposed to radiation, the dose limit is closely measured to see that no one exceeds the safe amount.

Hanford observes the dose limits established by the National Committee on Radiation Protection which enables continual exposure over a period of time without harmful effects. Actually, assignments for staff at Hanford are so arranged that no one gets more than one-fifth the permissible limit in a year. Employees in "hot" areas wear radiation-sensitive badges and two pencil-shaped pocket meters to record

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the amount of radiation received as added precautions.

Herbert M. Parker, Hanford's director of radiological sciences, feels that responsibility for radiological safety at an atomic plant is shared by everyone. One of the first things workers learn is the correct way to wear their badges and pencils, and the importance of wearing them. Booklets, posters, and orientation lectures constantly remind them of these things, teach them to operate and properly handle radiation measurement instruments, explain the meaning of various types of warning signs, and describe the rules governing work in or near radiation zones.

Personal cleanliness is an integral part of the protection program. Each worker leaving a radiation zone monitors his own hands and feet with special instruments.

The many-faceted protection program owes much of its effectiveness to the fact employees understand the rules and the reasons behind them. Workers do not feel in personal danger—they know that structures, equipment, and protective devices are designed so that obeying the rules insures safety.

Dr. W. Daggett Norwood, GE's manager of health and safety at Hanford, some time ago told a group of medical men at an Industrial Health Conference in Houston, Tex., that "in this atomic age, all of us, including our children, should have some knowledge of radiation protection." He believes that the expanding range of the H-bomb and the growing number of people working with radioactive materials make it increasingly important that everyone be aware of radiation hazards and methods for their control.

Fertilizer Section's Contest Closes June 30

THERE STILL is time for entries in the "Picture of Safety" contest sponsored by the Council's Fertilizer Section. Deadline is June 30.

The competition is designed to uncover non-commercial safety ideas or devices which are already in practice in fertilizer plants. No entry blank is necessary and any employee of the fertilizer industry may enter. Entrants' employers need not be NSC members.

Pictures and descriptions of any new device, improved equipment, tested operation, or other better way of doing a job which has improved safety should be submitted to J. C. Kato, Fertilizer Section, National Safety Council, 425 North Michigan Ave., Chicago 11.

Forty-three cash prizes and certificates will be awarded to winning entries. The judges are Ned H. Dearborn, president, NSC; Robert D. Gidel, supervising safety engineer, U.S. Department of Labor, and Joseph C. Stennett, engineering director, American Mutuals Alliance.

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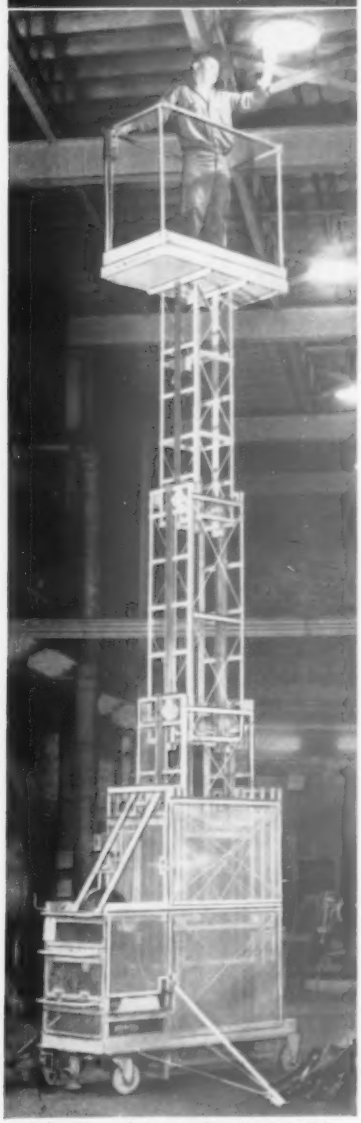

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Contests Aren't Cure-Alls

—*From page 25*

possible that we had been expecting too much. We had read the raving reports of other contests, and expected that our results would be equally startling. We now realized that a contest is not a panacea, but just one more tool at the disposal of the safety engineer, personnel man, or industrial relations expert.

We began to see that, while we had not achieved the goals that we had originally set, other things had happened which, in the long run, might prove to be even more valuable.

We know that we aroused a great deal of interest. One group of our employees was so intrigued that they began calling all of their friends, offering new cars, refrigerators, and all sorts of absurd prizes, for the correct slogan. Instead of being the same dull subject, safety had suddenly become interesting and a means of having a little bit of good-natured fun.

The biggest laugh of the contest, for those of us who were in charge, came when we contacted the ring leader of this group. Surrounded by his friends as we asked him the all-important question, he was unable to give us the correct slogan. He still blushes whenever we walk by his bench.

We also know that there were many wives who did know the slogan. On our regular trips through the plant, we were stopped with the question, "When are you going to call my wife?" For some reason or other, we simply pulled all of the wrong names out of the hat. How we managed to do it remains one of the great mysteries of the contest.

Though we were disappointed when it came time to count up the number of slogans that had been submitted to us for the grand prize drawing, we could not help but be impressed by their uniformly high quality.

"A Trip Doesn't Always Mean a Vacation; Watch Your Step." That one wasn't entirely original, but how many slogans really are? To us it was clear that thought had been given and this was typical of the entire group. As we look back we feel that there is no more significant result that we might have hoped for than to be able to say that a few of our employees had really given some serious thought to safety.

One of the other important benefits that we gained was the privilege of talking personally with more than 50 of our employees about safety. We know that they, in turn, talked to their friends about what had happened —whether they won or lost. And we can be pretty sure that a large number of our employees heard the story that we were trying to tell during the 12-week period that the contest was running.

We have no startling frequency, severity or cost curves that we can point to as a means of proving that the contest was a success. We do, however, know that December—the final month of the contest — was one of the best that we have had in the history of the company. But our record has been good enough in the past so that there would be scarcely a bump. The curve would still be a straight line. Along those lines the only claim that we can really make is that we didn't get any worse as a result of the contest. Did you ever hear anyone make such a statement and then brag about it? Actually we know now that it is exactly what we had hoped for—not to improve, but to stay as good as we already were.

We feel that we can admit to ourselves that the contest was not quite the failure that we had been inclined to think at first.

And since the job ahead is still one of maintaining interest in a subject which even the most dedicated safety engineer will admit is inclined to be dull at times, we will continue to look for new and different ways of telling our story to the people who count most. And if contests can help us again, we'll use contests!

Funny, isn't it—how it takes about 20 minutes to introduce the man who needs no introduction.

One acre out of every 10 planted in the U. S. is lost annually to insect damage.

Safety Library

—*From page 50*

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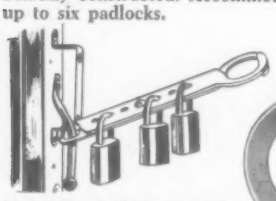

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Accidents May Be Intentional

PEOPLE may hurt themselves "accidentally on purpose" to lessen guilt feelings, gain affection, or hurt some one close to them, according to a University of Michigan psychiatrist.

Dr. M. M. Frohlich of the University's Medical School explains that such accidents are most likely to occur (1) when the individual's psychological "need" to hurt himself reaches a peak or (2) when a particularly opportune situation for self-injury presents itself. "All of this happens, of course, without any conscious awareness of the patient and in spite of his conscious efforts," he states.

Impulsive, active individuals who deliberate little and don't talk easily about their emotions or inner problems are the ones most apt to hurt themselves "accidentally on purpose," the doctor continues.

"Without an understanding and evaluation of the personality or mental factors which may play a role in accident causation, no satisfactory program of prevention can be developed," Dr. Frohlich concludes.

The doctor bases his findings on numerous reports published on accident prevention and personal experience in the field.

The Editor

—*From page 32*

ter paper and at the same time receive publicity for your program.

Your representative can act as a "leg man" for the editor. He can keep him posted on what's coming up, plan ideas for stories and pictures, and assist him in many ways. The safety representative need not be a news writer, but he should know your program and find interesting ways of presenting it to the editor.

A SECRETARY came to work one morning wearing these earrings advising workers to "Watch your step—not mine." It was different and everybody noticed it.

Before he submits an idea he should ask himself, "Would I read this if I were not in the accident prevention business?" If the answer is yes, he should present his plan to the editor who may say, "No dice," or "Looks good to me, so here's what I want you to do. . . ." Then the editor may add a detail or two that will help the story or photo.

I cannot overemphasize the importance of having a representative from the Safety Department deal with the company publication editor. I can guarantee it will pay dividends in your safety program.

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Like 60% of the leading U.S. industries, you, too, will find that safe and economical SIPCO Dunking Stations prevent fires — promote good housekeeping on the job. No smoldering — no fire hazards! Built specifically for hard industrial use, and abuse, and will last a lifetime.

WRITE FOR ILLUSTRATED FOLDER

UNIT No. 1—Heavy cast aluminum canister, attractive metal sign, upright heavy weighted base. 42" high, wt. 25 lbs.

UNIT No. 2—Same as above except without upright and base. For mounting on walls, columns and posts, wt. 5 lbs.

UNIT No. 3—Canister alone with mounting bracket.

SIPCO STANDARD INDUSTRIAL PRODUCTS CO.
DEPT. S, 920 N. GARFIELD AVE. • PEORIA, ILLINOIS

MORE WEAR PER PAIR

IN THESE TYPICAL CASE HISTORIES

Hundreds of case histories such as these testify to Sureseal's superiority for all kinds of jobs . . . save many dollars for glove users everywhere.

HANDLING HUBS AFTER MACHINING OPERATION

Sharp parts handled in this operation are covered with soluble oil—but Sureseal withstands the rough wear plus the required frequent cleaning for sanitation.

HANDLING WET GOATSKINS AFTER LIME TREATMENT

Previously men were obliged to wear canvas gloves over rubber—both clumsy and expensive. Now, Sureseal gloves alone make handling easier and faster, with more safety.

MAY WE HELP YOU

Tell us your needs. We'll submit recommendations and samples for test.

THE SURETY RUBBER CO.
Carrollton, Ohio

In Canada: Safety Supply Co., Toronto

a safety hat is safe only when it is WORN!

men like its comfort . . . they'll wear it

That's Why

MORE MAJOR UTILITIES CHOOSE THE GENTEX

than any other Safety Hat!

SUPERIOR COMFORT: Men *like* the lightweight comfort of the GENTEX hat with the adjustable snap-in sling and no-wrinkle headband. They admire its handsome styling, in brim and peak cap models. They wear it *full-time*, and get *full-time protection.*

RUGGED PROTECTION: More major utilities choose the GENTEX Safety Hat for high voltage areas because it delivers this full-time comfort *with* rugged safety insurance. The GENTEX exceeds all government and E.E.I. specifications for high dielectric resistance, with breakdown over

20,000 VOLTS

every hat laboratory tested

Send today for a test hat and full specifications.

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GENERAL TEXTILE MILLS, Inc.

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Only HAV-A-LIFT Regulated Salt and Salt & Dextrose Tablets are manufactured in FOUR Disposable Dispensers. The advantages to you are many—there is no longer any need to install large dispensers in smaller departments—HAV-A-LIFT also comes with Dextrose, an added important energy factor—HAV-A-LIFT is the only Salt Tablet which has Disposable Dispensers in both plain Salt and Salt & Dextrose.

For all-around ease of operation, HAV-A-LIFT is your best buy in coated Salt Tablets.

Dealers are located in every major city. Write today for our free circular and the name and address of the dealer nearest you.

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5. His happiness
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7. His family
8. His future

The second category creates a situation. Included are:

1. Records made or broken
2. Odd or unusual items
3. Something new and different
4. Humorous incidents
5. New devices
6. Awards or decorations
7. Suggestions

The editor and his staff know how a story should be written,

SHOCK TREATMENT. This animated display was designed to warn of the dangers of unsafe electrical connections. Lights flash and a buzzer sounds when the little man gets shock treatment from an extension cord.

but they'll depend on your representative to answer the "who, what, where, when, and why" questions.

The editor also will want someone in authority he can quote, to let his readers know the story is authentic. That's where you can help. Take a few minutes to give your representative some words of wisdom that he can pass on to the editor to incorporate in the story.

The demands on public attention today are terrific. To catch and hold the attention of the reader your material must be outstanding. One of the best means of catching the eye is a good picture. The first thing you see when you turn a newspaper page is the

pictures. They hit you right between the eyes, and if it's a good picture, you'll read the cutline to find out what it's all about.

Space Ships Small Threat to Today's Kids

COIN-OPERATED TOYS, such as horses, air planes, and space ships, are not a serious threat to the safety of children.

A survey of retail and food chain stores in all parts of the nation, made by the Trades and Services Section of the National Safety Council showed that operators who supervise, maintain and periodically inspect such toys may expect few mishaps.

Although the survey uncovered two deaths from electrocution, the few remaining accidents resulted only in minor bruises, bumps, and cuts.

The Trades and Services Section suggests the following rules for installing and operating coin-operated toys:

1. Avoid shear points between coin box and moving parts.

2. Place toy in area away from congestion.

3. Provide supervision either at the toy or near by.

4. Inspect equipment and electrical connections periodically.

5. Use check list to verify grounding of equipment.

6. Branch circuits should contain three No. 12 wires and be attached to a polarized receptacle.

7. All properly installed polarized receptacles should have the built-in equipment ground connected to the cold water pipe of the building with an approved ground clamp.

8. From outlet to ride, a three-conductor No. 14 heavy duty cord should be used. Length should not be more than six feet.

9. Outdoor type receptacles must be a three-pole locking type.

10. Cables must be secured inside ride at connection box by connector clamps.

11. Cords should have long-wearing outside insulation, and extension cords should not be used.

12. Rides should be approved by the Underwriters' Laboratory, and approval stamp should be affixed to ride.

13. Local electrical inspector's office should inspect rides on location when ready for inspection.

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CO Hazard
INSTANTLY

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CARBON
MONOXIDE
DETECTOR

REPLACEABLE DETECTOR TUBE CONTAINS YELLOW CHEMICAL WHICH TURNS BROWN WHEN AIR "SNIFFED" THROUGH DETECTOR TUBE BY PENCIL-SIZE ASPIRATOR CONTAINS CARBON MONOXIDE

- Shows CO hazard directly — at a glance
- Requires no color matching or reference to comparator scales
- Test takes only a few seconds
- Simple in operation; easy to use
- No special training needed

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Price Complete—includes MONOXOR Instrument, 24 Detector Tubes, 6 Tube Caps, in Pocket Case

The MONOXOR detects presence of CO, even in concentrations as low as 100 parts CO per million parts of air. Particularly useful for a spot-check of carbon monoxide contamination in garages, vehicular tunnels, mines, industrial plants and wherever gas appliances are operated.

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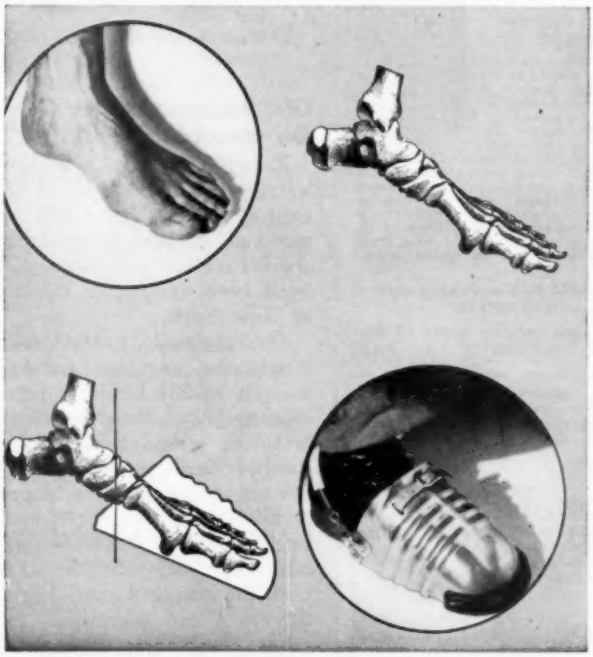

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Our feet have a lot of bones which we have forgotten.
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effective
safety information

Minimize chemical hazards

CHEMICAL SAFETY SUPERVISION

By JOSEPH GUELICH, Safety Manager, General Chemical Division, Allied Chemical and Dye Corp.

Here's the how-to-do-it handbook of safety for everyone who manufactures, uses, or handles chemicals, and it's admirably designed for busy foremen and supervisors. It shows in simple, straight-to-the-point language exactly how to cut down on carelessness and develop safe handling among your men. And the points are all made plain as well as interesting by the scores of cartoon-type illustrations. Full chapters explain tested, proven methods for teaching the use of chemicals to new men, protecting men from hazards, moving and storing chemicals, first aid, scheduling physical examinations, and the widest range of safety concepts. A glance at the book will convince you of its great worth. Special quantity prices available—write for details!

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Safety Off the Job

—*From page 44*

information about the kits and the Operation Safety program, write to Jim Saul, Operation Safety, National Safety Council.

Power Lawn Mower Accidents

A release from the Industrial Relations Department of E. I. du Pont de Nemours and Company calls attention to the hazards of power lawn mowers. In the past three years, 39 Du Pont employees were injured seriously by power mowers. Injuries ranged from deep cuts to amputated fingers and toes and were more than half the total injuries from all causes that the company's 100,000 employees had on the job last year.

Their safety suggestions included:

1. Keep gasoline in a safety can.
2. When filling fuel tank — don't smoke.
3. Clear lawn of sticks, stones, wire and debris.
4. Be sure of footing—don't work off balance.
5. Don't leave mower unattended while running.
6. Shut off motor when making adjustments.
7. Wear safety shoes and eye protection.

Life Insurance Rates Cut On Hazardous Jobs

ELIMINATION or reduction of extra premiums for about 93 per cent of the 547 "hazardous" occupational classes covered under individual life insurance policies have been announced by Mutual of New York.

Occupational "extras" will no longer be required from individuals in 284 kinds of jobs, including police, firemen, telephone linemen, piledriver operators, lumber haulers, many skilled foundry workers, mine inspectors ...nor even from professional hockey players. Formerly, policyholders in such jobs paid $2 more than the standard annual rate per $1,000 of life insurance. In another 221 classes, the insurance company has substantially lowered the occupational "extras." The changes affect existing life insurance policies as well as new issues.

The liberalizations reflect "the marked improvement in working conditions and the steady reduction of occupational hazards," the company said.

Following are examples of occupational classes for which annual extra charges have been reduced:

The former $3 extra per $1,000 of insurance has been cut to $2 for jobs such as tugboat crewmen, railroad track walkers, electrical conduit workmen, longshoremen and radium dial painters.

The $5 extra has been reduced to $3 for crews of ocean-going ships, structural steel erectors, and many workers in the manufacture of explosives.

The $7.50 extra has been lowered to $5 for occupations such as bartenders, logging riggers and top men, rock drillers, barge crewmen, oil well shooters and sand hogs.

Higher up the hazard scale, even steeplejacks, wrestlers and jockeys will pay less than they did before.

STOP THAT FALL

Safety Lifeline Lock

FOR SCAFFOLDS AND SWINGS

Locks automatically, instantly. Slips onto lifeline rope. Movable up or down with man. Instant locking position at all times, whether stationary or being moved up or down.

Snaps into safety belt. No adjusting. Inexpensive. Over-all length approx. 13". Does not harm rope. Weight: approx. 5 lbs.

Recommended for use on standard ¾" or ⅝" Manila rope.

Send for folder.

SAFETY TOWER LADDER CO.
1024 BURKANK BLVD. PO BOX 1052
BURBANK, CALIFORNIA

For Distinguished Service

—*From page 59*

Amalgamated Sugar Co., Rupert, Idaho.

Ames Aeronautical Laboratory, Moffett Field, Calif.

Armco Steel Corp., Butler Div.

Armstrong Cork Co., Lancaster, Pa.

Arvin Industries, Inc., Two awards: Electrical Appliance Div., Columbus, Ind.; Radio Div., Columbus.

Arwood Precision Casting Corp., Brooklyn Plant & General Office.

Atlas Powder Co., Two awards: Atlas Works, Webb City, Mo.; Senter Works, Houghton, Mich.

Avco Mfg. Corp., New Idea Div., Goldwater, Ohio.

Bakelite Co., Ottawa (Ill.) Plant.

E. W. Bliss Co., Canton (Ohio) Div.

Broderick & Bascom Rope Co., St. Louis, Mo.

F. N. Burt Co., Inc., Buffalo.

Cambridge Tile Mfg. Co., Cincinnati.

Canadian Celanese, Ltd., Sorel, Quebec.

Canadian Industries, Ltd., Seven awards: Beloeil Explosive Works; Brainerd Works; Central Research Laboratory, Beloit, Canada; Chatham Works; Montreal Building Employees; Nobel Explosives Works; York Works.

Carborundum Co., Two awards: Canadian Carborundum Co., Ontario; Stupakoff Div., Latrobe, Pa.

Carrier Corp., Three awards: Entire company; Syracuse (N.Y.) Div.; Unitary Equipment Div.

Caterpillar Tractor Co., Joliet, Ill.

Ceco Steel Products Corp., Cicero, Ill.

Central Soya Co., Inc., Gibson City, Ill.

Chemstrand Corp., Research Laboratories, Decatur, Ala.

Chrysler Nine Mile Press Plant, Automotive Body Div., Detroit.

Clayton & Lambert Mfg. Co., Louisville.

James B. Clow & Sons, National Cast Iron Pipe Div., Birmingham.

Colgate-Palmolive, Ltd., Toronto (Ontario) Plant.

Consol Mining & Smelting Co. of Canada, Ltd., Bluebell Mine.

Continental Foundry & Machine Co., Two awards: Iron Foundry, Warwood Works; Wheeling Works.

Continental Screw Co., New Bedford, Mass.

Crosse & Blackwell Co., Baltimore.

Crown Zellerbach Corp., Port Townsend, Wash.

De Soto Div., Chrysler Corp., Warren Plant, Dearborn, Mich.

Diamond Alkali Co., Deer Park Plant, Pasadena, Texas.

Dierks Forests, Inc., Mountain Pine, Ark.

Douglas Aircraft Co., Inc., Long Beach (Calif.) Plant.

Dow Chemical Co., Ludington (Mich.) Div.

Eagle Picher Co., Willoughby Plant.

Eastman Chemical Products, Inc., Kingsport, Tenn.

Electro Metallurgical Co., Ashtabula, Ohio.

Emsco Mfg. Co., Los Angeles.

Excelsior Finishing Plant, Pendleton, S. C.

Federal Cartridge Co., Twin Cities Arsenal, Minneapolis.

Fibreboard Products, Inc., Portland, Ore.

Fischer Lime & Cement Co., Two awards: Memphis Mineral Products; Memphis Structural Steel Fabrication.

Foote Mineral Co., Exton Plant, Pasli, Pa.

Ford Motor Co., Three awards: Cleveland Foundry, Engine & Foundry Div.; Louisville Assembly Plant; New Orleans Parts Depot.

Formica Co., Winton Place Plant.

Do you have the protection of a SAUNDERS' SNAKE BITE KIT? Are you always ready just in case? The SAUNDERS' KIT has the only venom-suction pump with a guarantee . . . does not have to be lubricated in the field . . . no glass to break. The only pump with three sizes of adapters . . . easier to use, less discomfort to patient. Accepted for advertising in publications of A.M.A.

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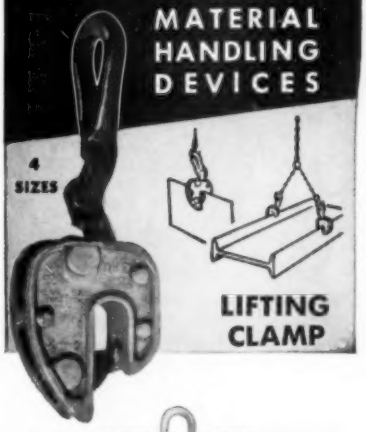

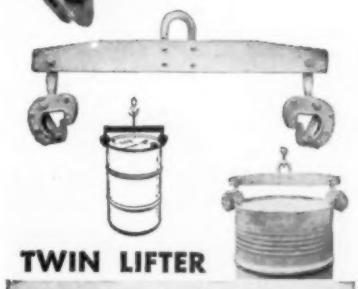

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World's Oldest and Largest Manufacturer of Automotive and Airline Safety Belts.

★ The Positive Ladder Safety Device

It locks automatically—instantly—holds.

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Automatic: Positive. Will catch workman if he starts to fall even if unconscious.
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Fraser Cos., Ltd., Two awards: Fraser Paper, Ltd., Madewaska, Maine; New Castle, N. B. Div.

Gardner Board & Carton Co., Two awards: Lockland, Ohio; Middletown, Ohio.

Garrett Corp., Los Angeles.

Gates Rubber Co., Denver.

General Aniline & Film Corp., Rensselaer Plant.

General Electric Co., Seven awards: Aircraft Nuclear Propulsion Dept., Idaho Test Station; Hermetic Motor Dept., Fort Wayne (Ind.) Operation; Hotpoint Co., Plant No. 4, Chicago Heights, Ill. and Plant No. 8, Cicero, Ill.; Jet Engine Dept., Aircraft Gas Turbine Div., Cincinnati; Large Steam Turbine Generator Dept.; Zanesville, Ohio.

General Foods Corp., Corn Mill Div., Kankakee, Ill.

General Mills, Inc., Three awards: Flour & Feed Mill & Grain, Buffalo, N. Y. and Minnesota; Mfg. & Pkg. Food Products, Lodi, Calif.

Gisholt Machine Co., Madison, Wis.

B. F. Goodrich Co., Tuscaloosa (Ala). Tank Lining.

Goodyear Tire & Rubber Co., Nine awards: World Wide; Goodyear Aircraft Corp., Akron; Jackson, Mich.; Kelly Springfield Tire Co.; New Bedford, Mass.; Norrkaping, Sweden; Plant "C," Akron; Plant No. 1, Stock Preparation, Akron; Plant No. 2, Tires, Akron.

Granite City Steel Co., Granite City, Ill., Entire company.

Graniteville Co., Two awards: Cotton Textile Mills; Gregg Div., both of Graniteville, S. C.

M. J. Grove Lime Co., Frederick, Md.

Hotpoint Co., Chicago.

Houdaille-Hershey Corp., Buffalo Div.

Hughes Tool Co., Houston.

International Latex Corp., Dover, Del.

International Paper Co., Camden Mill, Ark.

Johnson & Johnson, New Brunswick, N. J.

Kaiser Aluminum & Chemical Corp., Cement Mfg., Calif.

Lance, Inc., Charlotte (N. C.) Plant.

Lawn-Boy, Lamar, Mo.

Lebanon Steel Foundry, Lebanon, Pa.

Manning, Maxwell & Moore, Inc., Two awards: Stratford (Conn.) Plant; Watertown Plant.

Marshall Field & Co., Inc., Electric Blanket Mill, Spray, N. C.

Oscar Mayer & Co., Chicago Plant.

Maytag Co., Plant No. 1, Newton, Iowa.

McGraw Electric Co., Line Material Co., Pa.

Mengel Co., Two awards: Corrugated Box Div., Louisville Plant; Laurel Pine Div.

Mennonite Publishing House, Scottdale, Pa.

Merck & Co., Inc., Three awards: Scientific Div., N. J.; Sharp & Dohme Co., Inc., Glenolden Laboratory; Stonewall Plant, Elkton, Va.

Metals Research Laboratories, Niagara Falls, N. Y.

Miehle Printing Press & Mfg. Co., Chicago.

Monsanto Chemical Co., Two awards: Industrial Resins, Seattle; Mound Laboratory, Miamisburg, Ohio.

Moorman Mfg. Co., Quincy, Ill.

Morton Salt Co., Marysville, Mich.

Mosinee Paper Mills Co., Mosinee, Wis.

Murray Ohio Mfg. Co., Cleveland.

National Automatic Tool Co., Inc., Richmond, Ind.

National Carbon Co., Cleveland.

National Standard Co., Reynolds Wire Co., Dixon, Ill.

National Starch Products, Inc., Plainfield, N. J.

National U. S. Radiator Corp., Dincansville (Pa.) Plant.

The Nestle Co., Inc., Fulton, N. Y., Entire company.

North American Aviation, Inc., Los Angeles Plant.

Oliver Corp., Two awards: A. B. Farquhar Co., York, Pa.; Charles City (Iowa) Plant.

Oswego Falls Corp., Sealright Div., Fulton, N. Y.

Pabst Brewing Co., Peoria Heights, Ill.

Phelps Dodge Corp., Two awards: Morenci Branch Smelting; Open Cut Copper Mining.

Philco Corp., Plant No. 90, Bedford, Ind.

Pickands Mather & Co., Anvil Palms Mine, Ramsay, Mich.

Potlatch Forests, Inc., Fernstrom Paper Mills Div., Calif.

Puget Sound Pulp & Timber Co., Bellingham, Wash.

Rayonier, Inc., Fernandian, Fla.

Reading Anthracite Co., Pottsville, Pa.

Revere Copper & Brass, Inc., Baltimore Division, Canton.

St. Regis Paper Co. of Canada, Ltd., Cap de la Madeleine, Quebec.

Schenley Industries, Inc., Three awards: Chess & Wymond, Louisville; Louisville Cooperage Co., Plant No. 2; George T. Stagg Co., Lebanon, Ky.

Scripto, Inc., Atlanta.

Signode Steel Strapping Co., Plant No. 1, Chicago.

Simplex Wire & Cable Co., Cambridge, Mass., Entire company.
Solar Aircraft Co., Two awards: Des Moines, Iowa; San Diego (Calif.) Plant.
Sonoco Products Co., Hartsville, S. C.
Spartan Grain & Mill Co., Inc., Spartanburg (S. C.) Mill.
E. R. Squibb, Div. of Olin Mathieson Chemical Corp., N. J.
Standard Register Co., Dayton, Ohio.
Stauffer Chemical Co., Niagara Falls, N. Y.
Sunnen Products Co., St. Louis, Mo.
Swift & Co., Five awards: Columbus; Fort Worth; San Antonio; Toronto; V W & S.
Sylvania Electric Products Corp., Metallurgy Laboratory Research.
Taft Pierce Mfg. Co., Woonsocket, R. I.
S. G. Taylor Chain Co., Hammond, Ind.
Thiokol Corp., Huntsville, Ala.
Titanium Metals Corp. of America, Henderson, Nev.
Tool Steel Gear & Pinion Co., Elmwood Place, Ohio.
Towle Mfg. Co., Newburyport, Mass.
Union Asbestos & Rubber Co., Marshville, N. C.
United States Defense Corp., St. Louis, Mo.
United States Gypsum Co., Fort Dodge (Iowa) Plant.
United States Rubber Co., Gilmer Plant, Philadelphia.
Vitreous Steel Products Co., Nappanee, Ind.
Waldorf Paper Products Co., St. Paul, Minn.
Walsh Refractories Corp., St. Louis.
Weil McClain Co., Michigan City, Ind.
Westinghouse Air Brake Co., Wilmerding, Pa.
Westinghouse Electric Corp., Three awards: Air Arm Div., Baltimore; Beaver (Pa.) Works; Electronic Tube Div., Elmira, N. Y.
Western Electric Co., Inc., Ten awards: Atlanta Distributing House; Chicago Distributing House; Cleveland Distributing House; Haverhill (Mass.) Shops; Philadelphia Distributing House; Pittsburgh Distributing House; Point Breeze Works, Baltimore; Seattle Area of Installation; Syracuse Distributing House; Washington, D. C., Distributing House.
West Point Mfg. Co., Lanett Mill Div., West Point, Ga.
West Virginia Pulp & Paper Co., Two awards: Covington (Va.) Mill; Williamsburg (Pa.) Mill.
Wilson Paper Box Co., Inc., Richmond, Va.
Wood Conversion Co., Cloquet, Minn.
Youngstown Sheet and Tube Co., South Chicago (Ill.) Works.

CERTIFICATES OF COMMENDATION

Abitibi Power & Paper Co., Ltd., Fort Williams Div., Ontario.
Abrams Instrument Corp., Lansing, Mich.
Acme Steel Co., Racine (Wis.) Plant.
American Excelsior Corp., Marinette, Wis.
W. R. Ames Co., San Francisco.
Archer Daniels Midland Co., Council Bluffs, Iowa.
Atlas Powder Co., White Haven (Pa.) Works.
Auto Soler Co., Atlanta.
Ball Brothers, Inc., Aridor Co., Chicago.
Bay West Paper Co., Green Bay, Wis.
B B Chemical Co., Two awards: Cambridge, Mass.; So. Middleton, Mass.
Bowman Dairy Co., Central Wholesale, Chicago.
Brazos Oil and Gas Co., Div. of Dow Chemical Co., Houston.
Brea Chemical, Inc., Brea (Calif.) Plant.
Brown & Bailey Co., Philadelphia.
California Electric Power Co., Highgrove (Calif.) Steam Plant.
Canadian Industries, Ltd., Eight awards: Beloeil Fertilizer Works, Montreal; Copper Cliff Works; Halifax Fertilizer Works; Hamilton Fertilizer Works; Hamilton Chemical Works; James Island Works; Montreal Paint & Varnish Works; New Toronto Fabrication Works.
Cambridge Instrument Co., Inc., Ossining, N. Y.
Carborundum Co., Canadian Carborundum Co., Shawinigan Falls, Quebec.
Chicago Copper and Chemical Co., Blue Island, Ill.
James B. Clow & Sons, Two awards: Chicago; Newcomerstown, Ohio.
Consumers Cooperative Association, Three awards: Pipeline, Plainville, Kan.; Printing Dept., Kansas City; Warehousing, Kansas City, Mo.
Commercial Controls & Subsidiaries, Electromode.
Danssuser Machine Co., Fulton, Mo.
The Denver & Rio Grande Western Railroad Co., Three awards: Communications Dept.; Signal Dept.; Special Service Dept.

Don't let hot weather "KO" your workers . . . be sure you have plenty of MSco IMPREGNATED SALT TABLETS readily at hand. *Controlled action* of these MSco *impregnated* salt tablets replaces body salt *immediately*, but at a *gradual rate* to meet the body's needs. In expendable dispensers for wall locations, or in handy plastic vials for field workers. See your MSco distributor, or write for literature and prices.

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Engineering graduate with minimum 7 years' engineering experience which includes 5 years in fire protection with emphasis on design, preparation of equipment, specifications, inspection and employee training.

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With engineering degree plus minimum 5 years' experience in engineering and safety work.

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Diebold, Inc., Malvern (Ohio) Plant.

Dominion Tar & Chemical Co., Ltd., Beauharnois, Quebec.

Dravo Corp. & Subsidiaries, Three awards: Charleroi Supply Co.; Fullerton Portsmouth Bridge Co.; Realty Div.

Ferro Corp., Nashville Plant, FRIT Div.

Fertilizer Mfg. Cooperative, Inc., Baltimore.

Fischer Lime & Cement Co., Three awards: Concrete Products Co., Memphis; Ready Mix Concrete Plant, Memphis; Wholesale Div., Memphis.

Flexible Steel Lacing Co., Chicago.

General Electric Co., Eight awards: Charlotte Apparatus Shop; Dallas Apparatus Service Shop, Western Region; Denver Apparatus Shop, Western Region; Hotpoint Co., Plant No. 5A, Milwaukee; Large Steam Turbine Generator Dept.; Milwaukee Apparatus Service Shop; Toledo Apparatus Service Shop, So. Central Region; Yourk Apparatus Service Shop, Eastern Region.

General Foods Corp., Clarksville (Tenn.) Plant.

General Mills, Inc., Seven awards: Duluth (Minn.) Grain Storage; Flour & Feed Grain, Great Falls, Mont.; Flour & Feed Mill, Louisville; Flour & Feed Mill, Ogden, Utah; Flour & Feed Mill, Spokane; Mfg. Food Specialties, Keokuk, Iowa; Research Farm, Detroit.

B. F. Goodrich Chemical Co., Two awards: Avon Lake General Chemical Plant; Kearny, N. J.

Goodyear Tire & Rubber Co., Two awards: Reclaim, Akron; Rubber Reserve Corp., Akron.

Graniteville Co., Two awards: Company Office; Woodhead Div., Graniteville, S. C.

Industrial Products Co., Philadelphia.

Kaiser Aluminum & Chemical Corp., Permanente, Calif.

Kaiser Gypsum Co., Inc., Redwood City (Calif.) Plant.

Koppers Co., Inc., Nine awards: Tar Production Div., Carrollville; Tar Production Div., Garwood, Houston; Seaboard, N. J.; Swedeland Plant; Utica Plant; Warren Plant; Woodward Plant; Tech Dept., Pittsburgh.

Lehon Co., Memphis.

Lily Tulip Cup Corp., Monticello, Ind.

Manning, Maxwell & Moore, Inc., Danbury (Conn.) Plant.

Marshall Field & Co., Inc., Bedspread Mill, Leaksville, N. C.

Maui Electric Co., Ltd., Central Maui System & Lanai Div., T. H.

Maytag Co., Hampton (Iowa) Plant.

Merck & Co., Inc., Two awards: Pacific Coast Branch; St. Louis Branch.

Middleburg Throwing Corp., Middleburg, Pa.

Mississippi Power & Light Co., Natchez Steam Electric Station.

Monsanto Chemical Co., Santa Clara, Calif.

National Container Co. of Virginia, Big Island.

Randolph Box & Label Co., Chicago.

Robert Gair Co., Folding Paper Boxes, Grand Rapids, Mich.

Ruberoid Co., Two awards: Millis, Mass.; Minneapolis.

Schenley Industries, Inc., Five awards: Joseph S. Finch & Co., Cedarhurst, Md.; Old Quaker Co., Lawrenceburg, Ind.; Pebbleford Distillery Co., Ky.; Joseph E. Pepper Co., Lexington, Ky.; George T. Stagg Co., Limestone Spring.

Sherwin Williams Co., North Olmsted, Ohio.

Signode Steel Strapping Co., Two awards: Baltimore Plant; Wierton (W. Va.) Plant.

Southern Saw Service, Inc., Atlanta.

Spencer Chemical Co., Orange (Texas) Works.

Stauffer Chemical Co., Eleven awards: Bentonville, Va.; Chauncey, N. Y.; Chester, Pa.; Chauncey (N. Y.) Engineering Dept.; Chauncey Research Center; Houston; Lowland, Tenn.; Roanoke; St. Louis; Tampa; Weslaco, Texas.

Stroehmann Brothers Co., Bakery, Morristown, Pa.

Sutherland Paper Co., Santa Clara, Calif.

Swift & Co., Menominee.

Thilmany Pulp & Paper Co., Bag Mill.

United States Rubber Reclaiming Co., Inc., Cheektowaga, N. Y.

United States Rubber Co., Dominion Rubber Co., Ltd., Two awards: Canadian Lastex Co.; Montreal Unit.

Van Dusen Harrington Co., St. Anthony.

Victor Chemical Works, Two awards: A. R. Maas Chemical Co., Calif.; Morrisville, Pa.

Victor Products Corp., Plant No. 1.

Visking Corp., Preston Div., Terre Haute, Ind.

S. O. Warren Co., Tissue Paper, Gardiner, Maine.

Western Electric Co., Inc., Four awards: Cincinnati Distributing

Want More Information?

. . . the Reader Service postcard will get it for you FAST!

Here's how it works—

Printed below are two identical Reader Service postcards—the bottom one for your use; the top one for later readers of this issue. The numbers listed on each card are keyed to product advertised and the new safety equipment and trade publications described on pages 165 through 173. Just circle the items you want to know more about, and we will ask the manufacturer to send you full information without obligation. Both cards are perforated for easy removal, and no postage is required.

New Safety Equipment

Products featured in this section have been carefully reviewed by Council engineers so as to bring you only what's new and reliable in the safety field. Only new safety and health products, or newsworthy improvements in existing equipment are eligible for listing.

Trade Publications

Here's a wealth of helpful trade literature—catalogs, spec sheets, booklets, brochures—that will help you compare before you buy. Whether you are in the market now, or think you may be at a later date, you'll want these valuable references in your safety equipment data file.

Products Advertised

As you read through this issue of the NEWS, you will find advertisements describing equipment that may help you solve some of your accident problems. Instead of making a "mental note," make sure you get full information by circling the corresponding page number on the Reader Service postcard. The letters L, R, T and B locate the ads on the page—left, right, top and bottom. IFC—inside front cover; IBC—inside back cover; BC—back cover.

IMPORTANT—Be sure to fill in your name, organization and address in the space provided on this side of the postcard.

Please show company name in full—do not abbreviate.

Please send me more information on the items circled below: **JUNE, 1956**
(Good until September 30, 1956)

NEW SAFETY EQUIPMENT SECTION:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	32	33													

TRADE PUBLICATIONS:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38								

PRODUCTS ADVERTISED:

IFC	1	3	5	7	9	11	13	15	16	41	43		
45	47	49	51	52	54	55	57	58	59	61	62		
63	65	69	71	73	75	77	79	81	83	85	87		
89	91	93	95	97	100	101	102	103	104	105	106		
107	108	109T	109B	110	111T	111B	112	113	114	115	116		
117	118	119	120	121	122	123	124	125T	125B	126T	126B		
127T	127B	128T	128B	129T	129B	130	136	137	138T	138B	139T		
139B	140	141	142	143	144	145T	145B	146	147	148T	148B		
149T	149B	150T	150B	151T	151B	152L	152R	153L	153R	154T	154B		
155T	156	159L	159R	160T	160B	161T	161B	162T	162B	163LB	163T		
163B	164	174T	174B	I.B.C.	B.C.								

NAME.....

POSITION.....

COMPANY.....

ADDRESS.....

CITY & STATE.....

Please send me more information on the items circled below: **JUNE, 1956**
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63	65	69	71	73	75	77	79	81	83	85	87		
89	91	93	95	97	100	101	102	103	104	105	106		
107	108	109T	109B	110	111T	111B	112	113	114	115	116		
117	118	119	120	121	122	123	124	125T	125B	126T	126B		
127T	127B	128T	128B	129T	129B	130	136	137	138T	138B	139T		
139B	140	141	142	143	144	145T	145B	146	147	148T	148B		
149T	149B	150T	150B	151T	151B	152L	152R	153L	153R	154T	154B		
155T	156	159L	159R	160T	160B	161T	161B	162T	162B	163LB	163T		
163B	164	174T	174B	I.B.C.	B.C.								

NAME.....

POSITION.....

COMPANY.....

ADDRESS.....

CITY & STATE.....

The advertising pages of the News

. . . your guide to reliable suppliers of worthwhile safety equipment

The advertising policy of the NEWS requires that all equipment and products meet established codes and standards, have the approval of recognized testing agencies, or have proven their value through actual use in industry. Council engineers and technicians screen every advertisement to make sure that product description is accurate, and performance claims verified by reliable sources. It should not be construed, however, that products advertised are approved or endorsed by the National Safety Council.

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NATIONAL SAFETY NEWS

425 NORTH MICHIGAN AVENUE

CHICAGO 11, ILLINOIS

Before you mail your Reader Service postcard . . .

TAKE ANOTHER LOOK AT

- **the ADVERTISING pages**
- **the NEW SAFETY EQUIPMENT section**
- **the TRADE PUBLICATION section**

Make sure all the items you want to know more about are circled . . . check to make sure your name, organization, and address are printed on the reverse side of the postcard . . . THEN mail it today.

House; Houston Distributing House; Jacksonville (Fla.) Distributing House; Portland (Ore.) Distributing House.

Westinghouse Electric Corp., Four awards: Atomic Equipment Dept., Cheswick, Pa.; Irwin (Pa.) Works; Lamp Div., Paris, Texas; Owensboro (Ky.) Works.

Whitehall Cement Mfg. Co., Cementon, Pa.

Worcester Paper Pin Co., Worcester, Mass.

Inside NSC

—*From page 64*

than 1,100 awards were given last year. Write to the Statistics Division for details and for free copy of Award Plan brochure.

Imprinting Service. Those payroll enclosures, *Safe Worker* and rules booklets you purchase in quantity for distribution to your working force can all be made more effective by imprinting your company name, slogan, etc. This personalizing of safety materials costs little, yet adds a lot of punch to the safety materials. Details on imprinting are shown on order forms for publications and in Service Guide 2.1.

"Select-your-own membership plan. Two basic membership plans are offered to industrial members. The standard plan—most widely used—provides a monthly package of materials. There is also an optional plan available, for members who wish to select their own safety materials.

If you are presently receiving the package program (standard plan) and would rather make your own selection of materials, write to the Membership Department for information on converting to optional service. A good time to do this is at the end of your membership year, when your membership service is to be reviewed prior to renewal.

These are but eight services available to Council members. They are either free or low in cost. All are worth investigating as means of getting more use from your membership.

N.Y.U. Announces Course In Occupational Medicine

A FULL-TIME eight-week comprehensive course in occupational medicine for physicians will be given in the Post-Graduate Medical School of New York University-Bellevue Medical Center from Sept. 10-Nov. 2, 1956.

Among the subjects being offered to physicians are: Organization and administration of an industrial medical department; preventive and constructive medicine in industry; occupational diseases; toxicology and industrial hygiene for the physician; as well as biostatistics, communicable disease control and epidemiology. Opportunities will be provided for attendance at medical, surgical and clinico-pathological conferences during the course.

Happiness is that peculiar sensation you acquire when you are too busy to be miserable.

The world steps aside to let any man pass who knows whither he is going.—*Italian proverb.*

MSco A-17 POISON IVY OINTMENT in *new* handy package. Tear off corner and squeeze. Quicker, on-the-spot protection. It's another big advance in unit packaging, just as you would expect from MSco, *headquarters for poison ivy treatments.* Unit A-17 is the *original* and most widely used preventive and treatment for poisonous plant dermatitis in industrial first aid . . . has by far the longest record of successful case histories. See your MSco distributor, or write for clinical data and free illustrated poisonous plant identification guide.

MSCO

Specialists in first aid

Medical Supply Company
Rockford, Ill. • In Canada, it's Safety Supply Co.

too hot to handle?

For production line work, or one-at-a-time jobs—wherever exposure to extreme heat exists—Racine Asbestos Gloves offer the finest and most comfortable protection obtainable. Available in any grade of asbestos required; Racine Gloves work more efficiently and have greater stamina.

Your nearby Racine Glove distributor is stocked and ready to serve you. Order from him today.

FREE JOB-TEST... send us in detail, a description of materials to be handled, temperature conditions and type of job operation. We will then recommend the correct gloves and send FREE samples for you to test.

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GLOVE COMPANY, INC.
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Safety Gloves and Apparel
FOR INDUSTRY

Soap and brush action without any brush

Borax scrubber in Prolax powder acts like millions of fine tiny brushes. Makes stubborn grime vanish quickly.

Its hexachlorophene, through regular use, builds an invisible film on the skin that reduces by as much as 95% the resident bacterial population.

Correct for both shop and office; popular with both men and women.

Protect your valued employees from dermatitis with this heavy duty cleanser that is so kind to the skin.

For free sanitary survey of your premises ask your Dolge service man

DOLGE
WESTPORT, CONNECTICUT

For Safety
Guardi-Ann Hat

Combines utmost protection and style. Exclusive patented features found in no other hat.

Write for Free Sample or Order Direct from us

$15.00 dz.

CHIC MAID HAT MFG. CO., Inc.
630 HIGH STREET
BUFFALO 11, N. Y.

Hazards Aren't Predictable

—From page 27

than safety creep into this situation.

If this procedure breaks down, the union can request once a month a meeting of its representatives with management. Only once in the last five years has such a meeting been requested.

More recently, quarterly meetings between management and labor have been held to discuss any contract problems, including safety.

Every suggestion is critically analyzed as to merits and cost. None is turned down without an explanation to the person or the group who submitted it. Under this system cooperation works both ways. Thus much of the basic reason for aggressiveness at the bargaining table is minimized while the initiative is left where it belongs—in the hands of management. It is management who must face the cost as well as the responsibility for safety in its organization.

Safety Manuals. Comprehensive, carefully written safety manuals have been provided for the laboratory and the pilot plant. Specific instructions, rather than vague platitudes, are given wherever possible as to safe operations and safety measures and procedures.

New employees are furnished with copies of the manual and are required to sign a statement that they have read them. Thus an employee cannot claim that he never was told about certain safety procedures. Reviews are necessary, of course, and are accomplished by the supervisors at monthly meetings.

Written sequence procedures for operating equipment, devised so that hazardous situations are automatically avoided, have been set up. All toxic materials and their work sheets and finished products are marked with red tags. New materials, unless they are known to be non-toxic, are also labeled.

Monthly reports of results of the program help maintain employee interest. Each monthly meeting of department heads and supervisors with the safety director spends some time discussing the previous month's injury experience and this information is passed along to employees at meetings of each department.

Annual reports permit the summing up of the year's accident prevention experience. Simple, easy-to-grasp charts and displays encourage competition within and between departments and awards are made for accident-free records.

Even minor accidents are analyzed to find the basic causes and to prevent recurrence. If either personal action or supervision is at fault the matter is discussed with the person responsible.

Training. Movies and other visual aids have been used with success. Red Cross first-aid training is required for supervisors. Fire-fighting clinics have been available through the Office of Synthetic Rubber and experience in extinguishing controlled fires is a continuing training project for our plant fire brigade.

Eye Protection. We have found that furnishing face shields and goggles and emphasizing their importance is not enough. Strict enforcement is needed. All areas where any possible eye hazards exist have been so designated and employees working in or having access to these areas must wear safety glasses. Glasses, including prescription lenses, are furnished by the company. The only cost to employees is for eye examinations where necessary.

The results of this program over a six-year period are apparent in the Government Laboratories' 24 members of the Wise Owl Club of America. Based on the figure of $4,000 per eye, as set by the industrial commission, and on the premise that blindness was prevented in half the accidents, these Wise Owl members represent a conservative estimate of $48,000 saved at a cost of $4,500.73 for the program up to 1955.

Thus the hard-headed accountant is convinced that the program pays in dollars, as well as in preventing human suffering. This was not apparent at first and not

everyone was immediately sold on the idea, but patience, example and, in a few cases, pressure have resulted in at least 99 per cent cooperation and a real understanding by all employees of the benefits. Many requests to borrow glasses for home use are granted.

The Record. The program was organized in 1944 and 1945 in cooperation with the chief of the Safety Section of the Office of Synthetic Rubber of the Federal Facilities Corporation. During these two years the record was bad, but at least understandably so.

Since then, there have been seven years of accident-free operation—one period of more than a million hours and the present record of ¾ million hours.

In 1948 a man lost part of a finger while adjusting experimental hydraulic equipment. It was found that a fellow worker was talking to him while the mechanism was in motion. This was blamed as the basic cause of the accident.

In 1952 four men were seriously injured in two separate accidents. In one case, a drum containing about a quart of toluene was cut with an acetylene torch while the bung was in the drum. Two men working near by were hospitalized. The other case was the accident reported at the beginning of this article.

Education and firmness with both supervisors and employees has helped overcome the natural tendency to neglect to report minor injuries. In fiscal 1953 we had no lost-time accidents, 22 minor injuries during 337,142 man-hours worked. The following year we had 23 minor injuries during 279,464 man-hours. By analyzing the causes of these minor mishaps for each month over a period of years and by constantly bringing the determined basic causes to employees' attention through the methods discussed in this article, the interest and cooperation of employees has been gained and our record achieved.

Love your enemies. It'll sure make them feel silly!—*Craig* (Colo.) *Empire-Courier.*

Consultation Corner

—*From page 10*

der to qualify or pass the man for the job.

To date we have not been able to get much definite information to help in setting up a standard of requirements to be met to qualify.

Do you have information available on how other members handle this question?

Answer. There appears to be a very wide variation in what is considered adequate vision for crane operators. Various companies have set up their own requirements, and these vary widely. For instance, one company requires not less than 20/30 in both eyes (with or without glasses). Another company requires vision (corrected) of 20/20 in one eye and not less than 20/50 in the other eye. The War Department in their technical manual TM21-302, *Operator Selection and Training: Materials Handling Equipment* requires a minimum visual acuity of 20/50 corrected.

The American Standard Code ASA B30.2-1943, *Cranes, Derricks and Hoists,* merely suggests that "No person with seriously defective eye-sight or hearing shall operate a crane, derrick or simple drum hoist."

A closer parallel to the crane situation is seen in the requirements for operators of industrial power trucks, and the American Standard No. ASA B56.1-1955, *Safety Code for Industrial Power Trucks,* states "Visual acuity (either without glasses or by correction with glasses) shall be at least 20/40 in one eye, and 20/100 in the other eye; form field shall be not less than 45 degrees in all meridians from the point of fixation; ability to distinguish red, green and yellow shall also be required." By comparison with requirements of various companies, these latter code requirements seem to be excessively liberal.

By using first aid instead of endurance your family has you instead of insurance.

New stretcher makes any vehicle an emergency ambulance

Here's another use for the versatile new Haggard's all-purpose stretcher kit. No matter what type of stretcher you now have, you have need for the new Haggard. It does all the things any stretcher can do, plus many more. It is a complete unit ready for instant use anywhere. It is so compact that it fits into a car trunk. Lightweight, only 28½ pounds complete with case, blanket, first aid supplies, and accessories. It's such a totally new concept in utility, versatility and practicality that you should investigate it at once. See how easy it is to store, transport, and put to use. See all the advanced, needed features that make it a combination litter, fracture board, traction splint, and resuscitator. Compact, convenient, complete. Ask your MSco distributor for a demonstration or write Medical Supply Company, Rockford, Illinois. In Canada, Safety Supply Company, Toronto 2.

COTTERMAN TRUCK-N-LADDER

Truck and Ladder combined in a single unit

It is no longer necessary to buy two separate units—you have both in one unit—and both truck and ladder are moved at the same time. Good for stock picking, material handling, or maintenance work.

The steel truck with three or more shelves has 5" heavy duty rubber tired wheels—2 swivel and 2 stationary.

The ladder is our regular Welded Steel Safety Type with Swivel Brake Casters which allow the rubber tipped legs to come down to the floor when you step on the ladder and prevent rolling. When you step off the ladder both ladder and truck can be rolled. Hand Rails and Knee-Bar are provided to give the greatest amount of safety. Made in several models.

We Also Manufacture the COTTERMAN WELDED STEEL SAFETY LADDERS.

Write for Folder No. 56-N for complete information and prices on both these items.

Manufactured by

I. D. COTTERMAN

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. . . when it counts
PAC-KIT®

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PAC-KITS are indispensable where shops lack medical facilities.

Average fellow worker can instantly apply any of the various replaceable items contained in the heavy-duty dustproof, moistureproof cabinet.

WRITE TODAY for description of 4 available sizes and prices.

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GUARD HANDS ON EVERY JOB . . . GET *GRANET* GLOVES

Give your workers the protection they need in handling chemicals, oils and abrasive materials. Give them GRANET gloves — fully coated or palm coated with neoprene, rubber, or plastic for positive, safe, non-slip grip. Ask your distributor.

GRANET gloves are made for every job, in a complete range of styles. They outwear ordinary gloves yet cost no more. Test GRANET gloves in your plant now, without cost or obligation. State type of use, so that we can provide correct glove.

GRANET

THE GRANET CORP.
19 LORING DRIVE, FRAMINGHAM, MASS.

Calendar Contest Winners For April, 1956

First prize of $100 in the National Safety Council's Safety Sayings Contest goes this month to A. L. Jordan, of Tulsa, Okla. The theme in this contest was overloading causes accidents. Mr. Jordan's saying was adjudged the best of all those submitted. It was:

"Is this our trip to the falls?"

Second prize of $50 went to Mrs. Barbara Constant, of Culver City, Calif., for this saying:

"Are you SURE you can support me properly?"

Third prize of $25 was awarded to Roger W. Dana, of Neenah, Wis., for the following saying:

"Your safety habits need 'ALTAR-ing' also!"

Thirty $5.00 awards were issued to:

Francis J. Dorn, Rec'g. Inspection, A. B. Dick Co., Des Plaines, Ill.

Ivan L. Herring, Power Dept., Dow Chemical Co., Midland, Mich.

John G. Greene, machine operator, Caterpillar Tractor Co., Peoria, Ill.

Mrs. Rita Rumer, The Pullman Co., St. Louis, Mo.

Leslie D. Raymond, set-up man, A. O. Smith Corp., Milwaukee, Wis.

Mrs. Ben Goddard, B. F. Goodrich Co., Kansas City, Kans.

J. D. Marsh, electrician, Quaker Oats, Cedar Rapids, Iowa.

Mrs. Ernest M. Grider, Allison Div., General Motors Corp., Indianapolis, Ind.

James H. Stapleton, mechanic, Minerals & Chemicals Corp. of America, McIntyre, Ga.

Miss June Marchand, U. S. Rubber Co., Bristol, R. I.

John D. Larimer, master mechanic, Armour & Co., Columbus, Ohio.

Ben B. Dibrell, credit supervisor, Oklahoma Gas & Electric Co., Ardmore, Okla.

Tod H. Keast, carpenter, Youngstown Sheet & Tube Co., Youngstown, Ohio.

Capt. O. L. Duke, Selfridge Air Force Base, Mich.

Eber H. Brown, substation supervisor, Consumers Power Co., Saginaw, Mich.

Bernard L. Sloane, Coast Guard Corp., Boston, Mass.

Vera L. Pelton, United Air Lines, Seattle, Wash.

David W. Parks, compositor, Mack Printing Co., Easton, Pa.

Russell H. Rossiter, departmental assistant, Mason & Hanger-Silas Mason Co., Inc., Burlington, Iowa.

Jesse Pilcher, Alpha Portland Cement Co., Jamestown, N. Y.

E. M. Bostic, truck driver, Mason Dixon Lines, Kingsport, Tenn.

Jack L. Walker, Jr., assistant purchasing agent, Gifford-Hill & Co., Inc., Dallas, Tex.

R. H. Laney, Mandfield, La. (Individual Member)

Andrew E. Brandt, millworker, I. P. Miller Lumber Co., Monroe, Ore.

Mrs. W. R. Mitcham, Sandia Corp., Albuquerque, N. M.

Mrs. William Bradley, Reynolds Metals Co., Troutdale, Ore.

Richard T. Hurd, Socony-Mobil Oil Co., Augusta, Kan.

Genevieve Taylor, Portland, Ore. (Individual Member)

J. M. Macklin, Polythene Dept., Canadian Industries Ltd., Edmonton, Alta.

Harry Krug, Kansas City, Mo. (Individual Member)

Falls of Ground Campaign Cuts Accidents 29 Per Cent

THE EFFECTIVENESS of a special emphasis campaign in reducing accidents has been proven once again—this time by the mining industry. The results: a 29 per cent reduction in deaths and injuries due to falls of ground in mines.

This impressive record was chalked up in 1955 by the 250 mines participating in the International Campaign for the Prevention of Falls of Ground Accidents, sponsored by the Mining Section of the National Safety Council.

The goal of the campaign was a reduction of 50 per cent in the frequency rate for injuries from falls of ground. One hundred twenty-two mines surpassed that target or maintained a perfect record. For purposes of comparison, the 1955 rate was considered against the average rate for a previous period.

Mines achieving the 50 per cent reduction and those that operated during the campaign year without

a chargeable injury from a fall of ground qualified for the Council's Certificate of Achievement. A further requirement to win the award was that a minimum of four safety activities directed at the hazard had been conducted.

Recognition also was given the work of supervisors in promoting safety among their men. Certificates of Commendation were presented to approximately 1,000 supervisors who led their men through the year without a single chargeable injury.

Here are some other accomplishments of the campaign:

1. Three out of four participating mines made progress against falls of ground although some mines did not reduce their frequency enough to qualify for an award.

2. An estimated 260 injuries, including about 15 permanent disabilities and fatalities, were prevented by participating companies based on what might be expected from past experience.

3. The campaign produced a bonus for some mines. They reported that the campaign created a greater interest in safety in general with the result that there were fewer injuries from other sources.

American mines as a group achieved an average reduction of 30 per cent from their base rate. Participating mines in the eastern part of the United States showed very marked improvement, averaging 46 per cent. Substantial improvement, averaging 36 per cent, also was made by mines in the southwest — Arizona, New Mexico, Texas and Colorado.

Canadian mines reduced their falls of ground accidents 24 per cent. Nine mines in British Columbia achieved the largest average decrease—56 per cent.

Four overseas mines in South Africa, Cuba, Cyprus and the Philippine Islands had an average improvement of 43 per cent.

Paper Towel Causes Lost-time Disability

EVEN PAPER TOWELS can be hazardous, a Westinghouse employee learned recently when an edge of a towel brushed against his eye as he dried his face. Although the man thought nothing of it and didn't report it to the medical department until two hours later, his injury resulted in three days lost time.

The paper towel brushing against his eye had caused an abrasion of the cornea which later caused a great deal of pain and discomfort. No permanent damage resulted.

This is the first recorded disability from a paper towel recorded in the company's history. Several years ago, however, the same plant experienced slight abrasions from paper towels and since 1951 has been using high-quality, soft paper towels to reduce the risk as much as possible.

Stationery abrasions are not uncommon, the company has found. One girl cut her eye on a record card as she pulled it from a file folder.

While W. W. Allison, safety engineer for Westinghouse, usually urges people to keep their eyes open, he now cautions people to close their eyes while wiping their faces with paper towels.

Sounds for Safety engineered by FALCON

New Falcon Automatic Fire Detectors and Alarms provide constant protection wherever fire is a hazard. Self-powered by DuPont "Freon", they give early warning at first sign of fire.

U. L. Approved for 20 Ft. Spacing—Low Cost—Non Electric—Easy Maintenance —Easily Installed—30 Yr. Guarantee.

Falcon manually operated Emergency Signaling Horns are portable, self-contained and "Freon" powered.

Many types and sizes. Special designs for special uses.

Write for details —

FALCON ALARM COMPANY, INC.
243 Broad St., Summit, N. J.
SEVERAL SALES TERRITORIES NOW OPEN

MOSQUITOES, ticks, chiggers, *all* biting insects have no place to land when your workers use PELLENT. Three types: *Ointment* for regular use . . . *Cream* that won't sweat out, only soap and water will remove . . . *Spray* for clothing. PELLENT does not stain . . . lasts for hours! Unit 204A Ointment (6⅛ oz.) . . . $0.65, Unit 205AA Cream (2 oz. plastic) . . . $1.00, No. 320 Pellent Spray (5 oz.) . . . $1.00. Order from your MSco distributor today.

MSCO

Specialists in first aid

Medical Supply Company
Rockford, Ill. • In Canada, It's Safety Supply Co.

"VEKI" SAFETY CAP

DESIGNED FOR GREATEST INDUSTRIAL SAFETY

VEKI's larger, roomier, elastic-type snood is designed specifically for enclosing more hair than any conventional type cap . . . full protection for all hair all the time! Front of twill. Back is made of mesh—can also be had in solid or flame-proof materials. Navy blue, and brown. Adjusts to all head sizes. Descriptive literature on request.

Manufacturers and distributors of a complete line of safety clothing and equipment.
Write Dept. NS-6 for information regarding your needs.

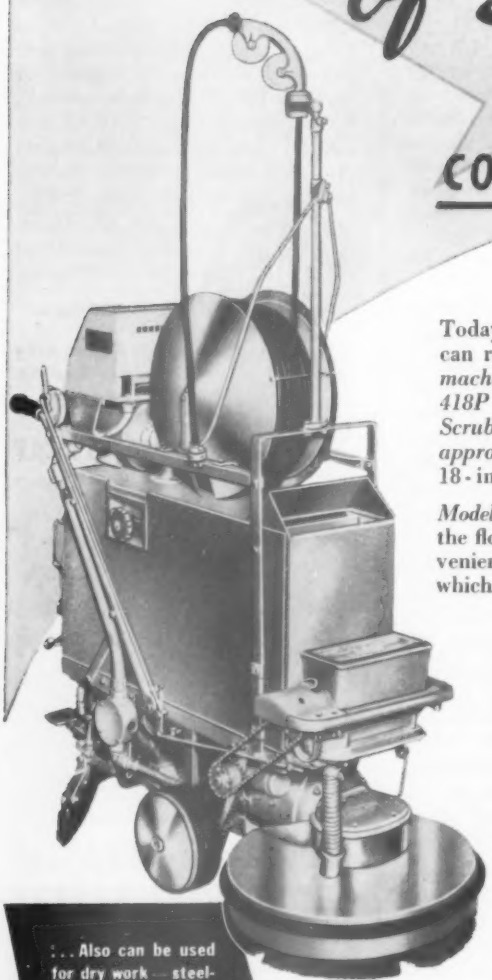
V. E. KENNEDY–INGALLS CO.
3735 NORTH 35TH STREET
MILWAUKEE 16, WISCONSIN

SMALL-AREA BUILDINGS...

Save 2/3 of Every Hour of Scrubbing Time

WITH A

COMBINATION SCRUBBER-VAC!



...Also can be used for dry work — steel-wooling, et cetera

(Powder Dispenser is an accessory)

Today, even buildings with but 2,000 to 15,000 sq. ft. of floor space can reap the labor-saving, cost-reducing benefits of *combination-machine-scrubbing.* Here's a *Combination Scrubber-Vac, Model 418P* at left, that's specially designed for such buildings. This *Scrubber-Vac,* which has an 18-inch brush ring, cleans floors in *approximately one-third the time* required with a conventional 18-inch machine and separate vac unit.

Model 418P applies the cleanser, scrubs, and picks up (damp-dries the floor) — *all in one operation!* Maintenance men like the convenience of working with this single unit . . . the thoroughness with which it cleans . . . and the features that make the machine simple to operate. It's *self-propelled,* and has a *positive* clutch. There are no switches to set for *fast* or *slow*—slight pressure of the hand on clutch lever adjusts speed to desired rate. The powerful vac performs efficiently and quietly. Compactly built, the *418P* also serves advantageously in larger buildings for the care of floors in narrow aisles and congested areas.

Finnell makes *Scrubber-Vac Machines* for small, vast, and intermediate operations, and in *self-powered* as well as *electric* models. From this complete line, you can choose the size and model that's exactly right for *your* job (no need to *over-buy* or *under-buy*). It's also good to know that you can lease or purchase a *Scrubber-Vac,* and that *there's a Finnell man nearby* to help train your maintenance operators in the proper use of the machine and to make periodic check-ups. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2206 East Street, Elkhart, Indiana. Branch Offices in all principal cities of the United States and Canada.

FINNELL SYSTEM, INC.

Originators of Power Scrubbing and Polishing Machines

Everything FINNELL for Floor Care

BRANCHES IN ALL PRINCIPAL CITIES

NEW SAFETY EQUIPMENT

Further information on these new products may be obtained by writing direct to the manufacturer or by circling the corresponding item number on the Reader Service Postcard.

Electro-Safe Press

Several safety factors incorporated into this press offer increased protection against hazards resulting from press operation. The operator must depress two widely spaced buttons at the same time to single-trip the machine, thus keeping both hands occupied. The flywheel has been eliminated. In single-stroke operation, the press and motor go dead after the stroke, eliminating stored-energy and double-tripping hazards. A selector switch which sets the press for "single-trip," "continuous" and other types of operation is locked in position by authorized personnel, so that the operator cannot devise dangerous shortcuts by varying the setting. The absence of standard clutching operation eliminates loud noise and hazards of mechanical clutching.

The press is equipped with a heavy-duty safety brake which will apply at any time the power is disconnected or disrupted. The safety stop button will stop the press instantaneously regardless of the point reached in the cycle. The manufacturer says any failure, mechanical or electrical will fail safe.

For the operator's safety, the press is designed with a control system that requires both buttons to be returned to the normal, non-depressed position before the machine will single-trip again. The machine will not function with one button fastened down. The operator must keep the buttons depressed until the stroke reaches bottom.

Kenco Mfg. Co., 5211 Telegraph Rd., Los Angeles 22. (Item 1)

Emergency Splint

This comfortable, easy-to-apply splint is useful for emergency treatment of an injured arm or leg. The Stryker emergency splint combines shaped aluminum half sections with built-in padding and traction to

completely immobilize the fractured limb and to reduce the risk of further injury and discomfort.

Three web straps tighten snugly, providing moderate, uniform compression. The splint may be left on, if necessary, for several hours with safety and comfort. It is recommended wherever first aid is practiced — industrial plants, hospitals, transportation companies, etc.

The splint is available in two sizes —36 in. and 30 in.

Orthopedic Frame Co., 420 Alcott St., Kalamazoo, Mich. (Item 2)

"Flip-Ease" Safety Shoe

This safety oxford, No. 607, features a patented Talon Shu-Lok fastener. The slide and snap closure, which is adjustable, makes putting on and taking off safety shoes easier and faster.

The shoe has uppers of Cambi-Cordovan leather, thermoplastic counters, Dacron stitching and Pacifate linings. The outsoles are Neoprene Nitrocrepe.

Iron Age Div., H. Childs & Co., Inc., 1205 Madison Ave., N.S., Pittsburgh 12, Pa. (Item 3)

Portable Tool Mufflers

This manufacturer claims up to 75 per cent reduction in exhaust air noise from the use of their exhaust mufflers on their screwdrivers and nutsetters.

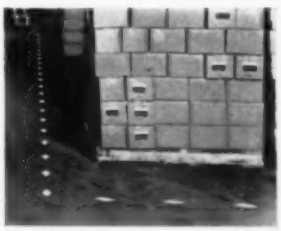
The Silentair exhaust muffler consists of a steel sleeve which provides a large expansion chamber for the exhaust air before it reaches the atmosphere through a felt wick and many small holes. Coupled with an internal three-stage exhaust muffling system, the muffler is said to reduce 75 per cent the magnitude (and the pitch) of the air waves to a hum instead of the siren-like howl of non-muffled air tools.

The mufflers are said to increase the acceptance of air tools and allow greater efficiency.

Thor Power Tool Co., Aurora, Ill. (Item 4)

Klear-Vu Aisle Markers

These diamond style aisle markers are said to last 10 to 15 times longer than painted lines or aisle marking tape.



Quickly and easily installed, the self-adhering backing requires only a light coat of adhesive to floor or pavement for a smooth, durable, non-shifting installation. The markers are unaffected by oil, grease, grime, salts, water or temperature changes, and are made to withstand truck traffic.

They are constructed of vinyl plastic and are resistant to abrasion, and will not crack or break.

The markers are available in yellow, white or red.

Lester Brossard Co., 540 N. Michigan Ave., Chicago 11. (Item 5)

Drum Speed and Rotation Indicator

A hoist drum rotation indicator is a new safety device for cranes and portable and fixed hoisting equipment.

The indicator transmits the slightest movement of the cable drum to the operator without causing him to take his eyes from the signal man. The device consists of a wheel mounted against the drum of the crane and connected by a flexible shafting to a knob that may be mounted on any lever convenient to the operator in the cab of the crane. The wheel is supported by a specially designed spring that will retain the desired tension against the drum regardless of the position or the portion of the drum it is placed against.

The instrument also may be equipped with a visual counter. The visual counter will add or subtract revolutions of the wheel that is mounted against the drum and may be reset to zero at any time. The part of the indicator mounted in the cab of the crane is designed to mount on one of the operating levers which eliminates the necessity of the operator putting his hand on the cable.

The drum speed indicator is a safety device to protect men loading and unloading material, and to protect the operator when he works with his hook or load out of sight.

J. F. Henry & Co., P. O. Box 231, Wilmington, Calif. (Item 6)

Antiseptic Applicator Bottle

A new capillary type antiseptic applicator bottle for use in industrial first aid is said to withstand impact pressures better than bottles

in cardboard sleeves. The applicators are reported to withstand five times the compressive breaking value of the old type bottles and up to twice the amount of internal pressure.

Printing is applied directly to the bottle to allow instant identification of the contents.

Medical Supply Co., 1027 W. State St., Rockford, Ill. (Item 7)

Hand Cleaner Dispenser

This waterless soap container consists of a throw-away refill tin that fits into a dispenser unit.

The cap of the refill container is removed and the entire can is set into the dispenser operating unit. The cleaner feeds into the hand by turning the crank. The gate closes when the handle is left down, protecting the contents. The operating unit is of porcelain enamel.

The Chemical Corp., 54 Waltham Ave., Springfield 9, Mass. (Item 8)

Acid-Handling Device

The Tripl-Duty Truk-Boy offers a safe method of transporting and pouring acids and other liquids. The safety ratchet on the tilter has fingertip control for positive operation. The air vent pouring spout assures a splash-free flow; with a capacity of three to five gallons a minute.

The truck offers placement in the carboy tilter. A locking device permits the tilter to be held in a rigid position for loading so the whole operation can be done by one man.

It is fitted with a base plate and may be used to transport stainless steel containers and load them into the tilter.

General Scientific Equipment Co., 27th & Huntingdon Sts., Philadelphia 32. (Item 9)

Spark Arrestor

This spark arrestor is for use on the exhaust systems of internal-combustion engines. It traps fire-causing exhaust sparks when attached to the end of an exhaust pipe. The unit is simple, has no parts to clean, causes a minimum of back-pressure, and is designed for use in air fields, oil fields, refineries, lumber mills, mines, warehouses or wherever protection is needed from exhaust sparks.

Erickson Products Co., 43 Dore St., San Francisco 3. (Item 10)

Metal Safety Frame

This modern, attractive metal safety frame has flexible polyethelene nose pads. The pads are easily removed without tools and are adjustable for greater comfort.

A choice of temple styles is offered. A new style spatula type temple with plastic paddle-tips and the conventional plastic insulated cable temples are available. The sideshields are available in metal screen or clear or green plastic.

With the manufacturer's optilite or hardened glass lenses mounted in the frame, the entire unit is said to meet all federal specifications for strength, optical qualities, impact and piercing tests and resistance to corrosion.

United States Safety Service Co., 1215 McGee St., Kansas City 6. Mo. (Item 11)

Salt Tablet Dispenser

This cylindrical, disposable dispenser for salt tablets is designed to hold 1,000 orange, impregnated, non-nauseating tablets that quickly eject one at a time by turning the chemical-resistant knob at the bottom of the container.

To establish accessible and easy-to-see salt tablet dispensing stations throughout a factory, a brightly-colored cardboard poster backboard is furnished with each dispenser along with metal wall grips.

The salt tablets are a supplementary replacement therapy, impregnated to dissolve more slowly and eliminate nausea.

E. D. Bullard Co., 275 Eighth St., San Francisco 3. (Item 12)

Dunking Station

This all-steel ash tray is designed to improve plant housekeeping and cut down fire hazards resulting from cigarettes.

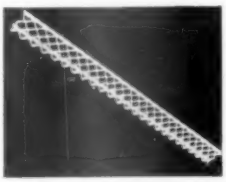
The fire engine red, enamel tray is easy to maintain, and cigarette butts may be sifted out of the sand with a cleaning screen. It may be fastened permanently to the wall.

The "Butt Snuffer" is available in two sizes.

Safety Floor Products, 7711 Clyde Ave., Chicago 49. (Item 13)

Safety Step Bars

These safety step bars are said to make treading surfaces skid-resistant. The assemblies come in stock lengths of 15 ft. 9 in. and



are for use in maintenance departments. The bars have a variety of uses such as auxiliary steps, grating panels, stair treads, ladders, etc. The safety step bars are engineered to provide safe footing even when submerged in grease, oil, wax, ice, sleet, snow, etc.

Bustin Steel Products, Inc., Dover, N. J. (Item 14)

Anti-Skid Coating

This new rough-textured coating for slippery floor surfaces is a rubber-based compound that can be applied by brush, trowel or spray equipment to concrete, metal, or wooden surfaces. A 1/16 in. coating dries overnight to provide an anti-slip surface, and improves footing and traction.

Floors around machines, aisles and ramps, catwalks, stair-steps, ladders, showers and boat decks are possible spots for application. The product is available in various colors, and is long-wearing. It is said to be unaffected by oil, gasoline or water.

Daubert Chemical Co., 333 N. Michigan Ave., Chicago 1. (Item 15)

Ladder Shoes

This safety ladder shoe features 10 heavy suction cups designed to grip smooth, wet or slippery surfaces, and features a specially designed steel toe for snow, ice and gravel.

These features are said to provide convenient, easy and safe operations on surfaces normally inadequate for a ladder.

B. F. McDonald Co., 5721 West 96th St., Los Angeles 45. (Item 16)

No-Bounce Hammers

The possibility of accidents resulting from bouncing hammers is said to be reduced by this line of hammers and tappers that "follow through" instead of bouncing.

The hammers are designed for use in production and assembly work, sheet metal work, machine shops and construction. The manufacturer says that the material in use is less likely to move and any secondary tool such as a punch, chisel or stamp stays in position for the next stroke.

The line of soft-faced hammers ranges in size from 6 oz. to 3 lbs. and does not shatter or send off flying fragments.

The metal-faced hammers, ranging in sizes from 10 oz. to 3 lbs., are said to increase safety, speed and

accuracy, and reduce material spoilage in machine shops, tool and die work, heavy construction and mechanical repairs.

The soft-faced tappers are made in 5-in. and 8-in. lengths.

Tahlen Hammer Co., 1729 First Ave., S., Seattle 4, Wash. (Item 17)

Four-Cell Trip Lamp

Approved by the U. S. Bureau of Mines, this new four-cell trip lamp is rectangular and can be hung quickly by its forged steel hook on the side or back of any mine car.

It provides high visibility and dependability for all types of mining conditions.

The four-cell battery may be recharged on any Edison R-4 lamp charging rack without additional equipment.

The new lamp provides illumination from all angles and the bulb is enclosed in a heavy glass cylinder protected by a sturdy cast-steel ribbed guard that forms part of the holder.

Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh 8, Pa. (Item 18)

Automatic Conveyor Controller

A new automatic safety controller that provides warning and prevents damage from abnormal load conditions on electrically driven conveyor systems has been announced.

The electro-mechanical device is said to eliminate the need for shear pins, slip clutches and other mechanical safety devices often used

on conveyors where they or adjacent equipment may be damaged by accidental jam-ups.

The unit also affords protection against extreme overload and is said to provide electric motor protection.

The unit instantly and automatically shuts off the conveyor system at any predetermined load setting and the device measures and acts upon variations from normal load over a wide range.

It may also be set up to give warning or alarm of impending trouble before the shut-off stage is reached.

Tipp Mfg. Co., Tipp City, Ohio. (Item 19)

Monomast Lift Truck

This pneumatic-tired monomast truck has a 2,000 pound capacity. It is designed for inside and outside production. The operating advantages are said to include faster load placement, reduced driver fatigue and greater safety through increased visibility. The compactness and maneuverability allow the Monomast Model QN-20 to work rapidly in narrow aisles and crowded warehouse areas. The truck is powered by a heavy-duty air-cooled Wisconsin gasoline engine. LP-gas conversion kits are also available.

Hyster Co., 2902 N.E. Clackamas St., Portland 8, Ore. (Item 20)

Coated Nylon Fabric

Vinyl or Neoprene coated nylon fabrics are available for industrial maintenance use as material and equipment covers, aprons, truck covers, etc.

The fabrics are strong and light weight and are unaffected by oil, grease, most acids, and temperature extremes. They are easily sewn on

conventional machines or may be cemented. They are waterproof and may be made flame resistant. They are available in several colors and all weights.

C. R. Daniels, Inc., Daniels, Md. (Item 21)

Flash-Proof Faucet

A stainless steel faucet with a protective, corrosion resistant anti-flash screen in the nozzle is for use with volatile and inflammable solvents or other hazardous fluids. Constructed of 304 stainless steel with chemically inert Kel-F seal rings, the fume-tight sanitary faucet permits full flow and has an automatic positive shut-off action.

It can be disassembled quickly for maintenance and cleaning, and the shank is supplied in interchangeable sizes with tapered threads to allow a tight fit.

The faucet is said to be extra safe because metal to metal contact in the operation has been eliminated. All frictional contact is limited to the plastic seal rings moving against the inside walls of the body chamber.

Economy Faucet Co., 12 New York Ave., Newark, N. J. (Item 22)

Non-Slip Rubber Coated Gloves

Called "Grip-All," these rubber coated industrial gloves have an impregnated extra-coarse rubber dust surface that makes them highly resistant to slipping.

They are made of heavy weight material and are flexible for ease of finger movement and to enable

workmen to grip hard and fast. The glove is designed for workmen handling sharp, slippery objects such as plate glass, sheet metal, etc. They are available in five different styles including palm and fully-coated styles with knit wrists and 2-in. and 4-in. safety cuffs.

Hood Rubber Co., Watertown 72, Mass. (Item 23)

Marking Machine

A new gravity-feed marking machine has a capacity of five gallons of paint, lacquer, or whitewash and incorporates many of the operating advantages of power machines while maintaining lightness of weight, easy handling and storage.

Called the Florline-King, this hand model makes lines around and between cars, machinery and stock, etc. without creating a mist hazard. It is not necessary to clear areas to be painted and curved, straight or skip lines can be made with a minimum of operator direction.

The unit is quickly convertible for working in narrow crowded aisles, or between trucks and cars. It is made of heavy-gauge metal with all-welded seams and is designed for use in industry, municipalities, schools and government services.

H. C. Sweet Co., 12345 Telegraph Road, Detroit 39, Mich. (Item 24)

"Cush'n-Guard" Safety Shoe

This safety shoe is designed to reduce instep injuries without hampering the freedom of movement of the foot. The "Cush'n-Guard" flap is reinforced with a special-design plastic shell that is tough and resilient. Between the plastic shell

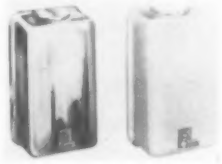
and the shoe is a ¼ in. thick layer of shock-absorbing, cellular plastic Ensolite.

The flap has a total protection area of 10 sq. in. The shoe also features a steel box toe, leather toe liner, resist-oil cord rope design sole and heel, and steel shank and dacron stitching.

Hy-Test Safety Shoes, Div., International Shoe Co., 1509 Washington Ave., St. Louis 3, Mo. (Item 25)

Soap Dispenser

The design of this soap dispenser, Model 33CP, takes into consideration several factors: minimizing time spent in the washroom by employees; soap economy; and cutting operating costs.



The dispensing mechanism provides an adjustable output range that is controlled by an easily accessible output set screw that can be adjusted to dispense varying amounts of soap. It will dispense any free-flowing powdered soap or cleanser from the finest borax to the coarsest type with vegetable scrubbers.

The dispenser also features a self-scouring mechanism to avoid soap build-up, a new press-down lever that prevents messy soap accumulation and a capacity of 34 fluid ounces. It is made of triple plated steel with a polished chrome finish.

A similar model, No. 33, is also available in white baked enamel.

Bobrick Dispensers, Inc., 1214 Nostrand Ave., Brooklyn 25, N. Y. (Item 26)

Work Truck

Constructed entirely of aluminum, this work truck comes equipped with a safety ladder and high altitude extension shelf. When the operator steps on the ladder, it slides through the guides until the rubber feet rest solidly on the floor, locking the truck and ladder to the floor as a unit. Stepping down and off the ladder automatically releases it to its storage position.

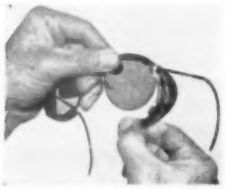
The extension shelf, at its top position, is 8 ft. from the floor, and the top ladder step is at the 5½-ft. level giving the operator a reach potential of nearly 12 ft.

The truck has three shelves to carry small repair parts, cleaning equipment, and storage materials. The unit moves freely on swivel ball-bearing wheels.

Rol-Away Truck Mfg. Co., Inc., 6143 S.E. Foster Rd., Portland, Ore. (Item 27)

Detachable Sideshield

A detachable side shield that fits all types and sizes of safety spectacles is called the "Sideclip." The sideshield is said to help reduce costs and inventory by making it unnecessary to stock and issue



safety spectacles with sideshields attached in addition to the standard models. The shields are molded in one piece of tough butyrate plastic and are equipped with a spring steel reinforcing ring which prevents loosening under conditions of extreme heat or constant use. Four models are available in clear or anti-glare medium green with or without ventilation.

American Safety Products Co., 3312 W. Vernon Ave., Los Angeles 8. (Item 28)

Drum Upender

The Morse drum upender has a 40-in. handle, offset 35° for efficiency in raising drums from horizontal to vertical. The tool is engineered for manually upending

heavy drums with a minimum of effort and to prevent personal injuries while handling them. The tool is strong and durable and a 1¼ in. hook provides adequate clearance for the largest chime. A 2½ in. by 8 in. toe plate spreads lifting pressure over a large area to prevent drum damage.

Morse Mfg. Co., 727 Manlius St., East Syracuse 2, N. Y. (Item 29)

Industrial Degreaser

An all-purpose industrial degreaser is recommended for use on machinery, materials handling equipment, desludging of fuel oil deposits, etc.

The solvent may be diluted as required and is said to be easy on the skin, and does not require protective clothing except for prolonged contact with the skin.

The manufacturer claims that the solvent when diluted with water cannot burn and is safe to use on metal such as aluminum, magnesium, and copper. It will not harm paint, plastics or rubber, especially if diluted, and may be applied by spray or rag or may be used by immersing materials to be cleaned in a tank of the cleaner.

Brulin & Co., Inc., 2939-45 Columbia Ave., Indianapolis 7, Ind. (Item 30)

Gas Odortester

A battery-operated instrument for the determination of odorant in natural and liquid propane gases has been designed for the gas industry. The Odortester ascertains the odor

threshold, or the lowest concentration of gas that can be detected easily. No conversion or calibration curves are required—the meter registers directly in terms of per cent gas by volume. The instrument uses Wheatstone Bridge filaments.

Davis Instruments, Inc., 45 Halleck St., Newark, N. J. (Item 31)

Scaffold Shoring Plate

This shoring plate for use on scaffold-shoring applications makes use of the standard base plates by providing additional area on which to lap the ledgers on shoring jobs.

The plate has a dichromate galvanized finish which is said to eliminate rust and increase the work life of the scaffolding.

The plate is designed to slide over the manufacturer's standard base plates and provide an additional 6 in. by 8 in. bearing surface.

Universal Mfg. Corp., Zelienople, Pa. (Item 32)

Cooling Unit

The "Breeze Wagon" is a portable air cooling unit for industrial use. It is especially designed to reduce the temperature in a hot, confined

area such as a large tank or vat, enabling maintenance work to be handled more efficiently and quickly.

Depending upon the size of the unit, it is possible to provide a refrigeration capacity of as much as 60,000 BTU's per hour, giving a temperature reduction from 30-40°. A unit will pump 500 to 1,000 cu. ft. of refrigerated air into a confined area in the span of a minute.

Mounted on a four-wheeled steel cart with pneumatic tires, the "Breeze Wagon" can be moved from one plant location to another.

Peuchen Engineering Corp., P. O. Box 1969, Wilmington 99, Del. (Item 33)

News Items

S. T. Williams, general manager of A. Schrader's Son has been named a director of Scovill Manufacturing Co., the parent company of Schrader.

The new job will be in addition to Mr. Williams' continued management of Schrader.

Mr. Williams was appointed vice president of Scovill Manufacturing in 1944 and was elected president of Schrader in 1950.

His inventions include power press safety controls, quick acting couplers, and various other accessories used in pneumatic tube construction and servicing.

News Items

(Con't.)

Willson Products, Inc. has merged with the Ray-O-Vac Co. of Madison, Wis. Willson was purchased in 1955 by Ray-O-Vac and has been operated as a wholly owned subsidiary. Willson will now be known as Willson Products Division, Ray-O-Vac Co.

The three officers of this division will be: president, J. C. Ryan; vice-president, T. A. Willson, Sr.; and vice-president for sales, W. C. Weeks.

The Willson Products Division manufactures industrial safety products.

* * * *

The Macwhyte Co., wire rope manufacturers, has a new office and warehouse in Detroit. The warehouse, located at 75 Oakman Blvd., handles a wide range of sizes and types of wire rope.

* * * *

William F. Moran, Jr. has been appointed sales engineer for Tect, Inc. of Dumont, N. J. Prior to his appointment, Mr. Moran was a representative of the Diamond Alkali

W. F. Moran, Jr.

Co. He will represent Tect's line of safety solvents, stills, and solvent vapor degreasers for industrial plants.

* * * *

Jack Richardson has been appointed southern representative of the Columbus McKinnon Chain Corp. He will handle the company's industrial chain and similar products.

* * * *

The Cambridge Wire Cloth Co. has announced the appointment of the Smith-Monroe Co., South Bend, Ind., the Harry I. Sanctuary Co., Poughkeepsie, N. Y., and the Hamerslag Equip. Co., San Francisco, as distributors for its line of gripper woven wire slings.

The Boyer-Campbell Co. has announced the following directors:

R. G. Campbell

R. G. Campbell, William F. Goudie, James McMillan, John F. Phillips, and William J. Thomas. Mr. Campbell has been designated president and general manager and Mr. Phillips vice-president.

J. F. Phillips

Air Force Academy To Teach Ground Safety

The U. S. Air Force, youngest member of the nation's tri-service team, has a ground safety training program designed to reach all Air Force managers. The new USAF Academy in Colorado, the source for future Air Force generals, is planning a 20-hour course in ground safety to be included in the airmanship phase of the cadet training during the senior year. In addition, it is proposed to include approximately 20 hours of safety training as integrated instruction in the regular academic courses such as psychology, engineering, and public speaking. Steps have also been taken to include similar instruction in the curriculum of the Reserve Officer Training Corps at civilian colleges and universities throughout the nation.

In order to reach the key officers already on active duty, safety as an essential factor in good management, is included in the Command and Staff School of the Air University at Maxwell Air Force Base, Montgomery, Ala. The student body at this school is composed of lieutenant colonels and majors who perform command and staff functions at Air Force wings and higher headquarters.

Captains and lieutenants, the officers who do the "pick and shovel" work in Air Force squadrons (the next echelon of organization below the wing), receive ground safety training in the Squadron Officer School at the Air University. Heinrich's dominoes, famous among safety administrators and engineers, have been modified for Air Force use and are included as mandatory instruction in both of these Air University courses. A sixth domino labeled "Combat Capability" has been added to Heinrich's five to dramatically illustrate that ground accidents rob the Air Force and the nation of combat potential, so necessary for victory in the event of a future conflict.

Many top managers in the Air Force are civilian employees. Key civilian Air Force supervisors and newly employed civilian safety engineers and inspectors are trained at the USAF School for Civilian Personnel Administration at the University of Denver, Denver, Colo., in an 80-hour course taught by Air Force Safety Directors with many years of accident prevention experience. Principal subject areas include the philosophy and psychology of accident prevention, safety inspections and surveys, safety in supervision, accident investigation and reporting, safety engineering and research, traffic safety, effective speaking for safety, and educational and promotional techniques.

As one would expect, the number one ground accident prevention problem of the Air Force, as well as the nation, is the prevention of vehicle accidents. In order to assist in the solution of this problem, a course in Motor Vehicle Traffic Control is conducted for the Air Force at Northwestern University's Traffic Institute in Evanston, Illinois. Eligible to attend this 100-hour course are officers and civilians from the four agencies primarily concerned with the prevention of vehicle accidents—Provost Marshal, Installations, Transportation, and Ground Safety.

To round out this program a 100-hour course is conducted at New York University's Center for Safety. This course is designed to train Air Force officers who function as ground safety directors in Accident Prevention Administration, Motor Vehicle Safety, Fundamentals of Accident Prevention, Personal Factors in Accident Causation, and Practical Applications of Accident Prevention.

TRADE PUBLICATIONS

These trade publications will keep you up-to-the-minute on new developments in safety equipment and health products. All catalogs are free, and will be sent without obligation. Just circle publication number on the Reader Service Postcard.

1. Linemen's Protective Equipment: Catalog L-4 describes company's complete line of rubber protective equipment for linemen and other high voltage workers. Featured are interlocking line hose, linemen's rubber blankets, rubber sleeves, rubber gloves, rubber insulator hoods, snap-button rubber jackets, non-spillable P. B. compound pots, rubbercuff protector gloves, connector-end line hose, linemen's tool bags, linemen's glove bags, electricians' insulating stools, etc. W. H. Salisbury & Co., Morgan at Kinzie Sts., Chicago 22, Ill.

2. Otometer: Bulletin describes a significant improvement in audiometric testing instruments called the Otometer for rapid, accurate hearing evaluation. The Otometer is specifically designed for use in medical offices, clinics, hospitals, schools, industrial and commercial establishments. Its portability lends itself conveniently to air conduction testing of patients confined to the hospital or home. Special feature of the audiometric testing instrument is that it is battery operated—with no necessity for wall outlet. It is easily carried—for office, surgery, or house call use. A. M. Brooks Co., 1222 W. Washington Blvd., Los Angeles 7, Calif.

3. Marking Tools: Catalog 100 illustrates and describes company's complete line of safety marking tools, special stamps, machines and fixtures. The safety marking tools are produced from a special steel for the important non-spall and non-mushroom features. M. E. Cunningham Co., 1025 Chateau St., Pittsburgh 33, Pa.

4. 112" Telescoping Portable Lift: A one-page, two-color catalog sheet, describes company's new 112" telescoping portable lift. The new model, which has a capacity of 1,000 lbs., also features a battery powered hydraulic lift. The unit provides the benefits of mechanized raising and lowering of loads coupled with the economy of non-powered horizontal transportation. Easy to operate by one man, the lift can be used as a platform truck, a straddle fork truck, a portable elevator, or a shop crane. A graph showing the effect of increased load center on lift capacity is included. Oster Mfg. Co., P. O. Box 4326, Cleveland 32, Ohio.

5. Quietaire Pneumatic Silencer: Bulletin describes a pneumatic silencer which eliminates noise-shock from air-operated equipment. Called Quietaires are all-metal units that reduce sound in a noise-shock area close to the level found in the average factory (75 decibels). According to the manufacturer tests show that operating efficiency is in no way impaired while the noise is dampened. The Quietaires have no "cartridges"—no parts that need replacing. Made entirely of metal, according to the manufacturer, they are corrosion-resistant and are safe for any pressure normally encountered in industrial pneumatic service. C. W. Morris Co., 10628 Cloverdale, Detroit 4, Mich.

6. How to Care for Rubber Gloves: A 19 x 22 inch illustrated poster card shows how to care for rubber protective gloves and sleeves used by linemen and others who handle hot wires. The poster is devoted exclusively to text and illustrations of how to properly wear, and handle and store rubber protective gloves and sleeves, how to prevent damage, or find it when it occurs so maximum use and protection can be assured. Printed on heavy weight enamel card stock, the poster is suitable for display on bulletin boards, in locker rooms, and at advantageous points in electric utility and industrial plants and for use in safety forums. Charleston Rubber Co., Charleston, S. C.

7. Verticlosed Pump Motors: Bulletin No. 1903 reviews latest features of Verticlosed pump motors. Embodying 66 full-colored illustrations and technical drawings depicting features and applications of various types of vertical turbine pump motors. It describes hollow shaft Verticlosed grease- and oil-lubricated motors in sizes from 1½ to 400 hp; also single phase designs up to 7½ hp, and totally-enclosed types up to 150 hp. Various arrangements of bearing settings are presented; also an improved design of backstop to prevent backspin of the pump shaft when the pump is shut off and water recedes. Graphs show relation of thrust bearing life to contact angle, and starting characteristics of part-winding increment start motors are of especial interest to pump engineers. U. S. Electrical Motors, Inc., Box 2058, Los Angeles 54, Calif.

8. Message Repeater: Bulletin describes a message repeater for use in manufacturing plants and for state highway authorities for giving automatic safety warnings when the message repeater is activated either by an electric eye, foot mat or timer. This compact, magnetic tape recorder weighs less than six pounds and contains both the recording and play-back mechanisms. By attaching accessory microphone a recording can be made on the spot and played back immediately through the self-contained speaker. It is possible to record and repeat a two-minute or less message continuously or at any desired pre-set interval. Mohawk Business Machines Corp., 944 Halsey St., Brooklyn, N. Y.

9. 7′ High One-Way Turnstiles: The 7′ high Ful-stride Roto-Gate is an industrial safety tool that automatically makes workers use protective measures designed for their safety. Workers in plants that have contamination hazards from radiation, chemicals, metals or other sources must be protected from the contaminants. One method of protection is to enforce decontamination by requiring each exposed worker to take a shower after work. The turnstiles installed in locker rooms enforce worker showering automatically without argument or excuse. This is accomplished by this one way traffic control gate that leaves only one route for the worker to take—"through the showers" before he can obtain his street clothes. When he arrives at work the Roto-Gate allows him automatic entrance into the work clothes locker but prohibits exit except through the shower. Bulletin gives full details. Perey Turnstile Co., Industrial Division, 101 Park Ave., New York 17, N. Y.

10. Industrial Wire Rope Recommendations: Bulletin No. DH-128D of 24 pages gives wire rope recommendations for industrial services. Covering more than 120 different types of wire ropes used in construction by bulldozers, scrapers, derricks, dragline excavators, shovels and winches; in conveyors by button, disc, can and hook units; in cranes by truck or crawler, clamshell, gantry, railroad, overhead traveling, shop and wrecker units; in dredges for anchor cables, hoist lines, ladder lines, spud and swing lines, etc. Points covered are rope diameters, construction, preforming, lay, grade and core. Charts covering weights and breaking strengths are provided as are photographs and drawings of typical wire rope riggings and accessories. American Chain & Cable Co., Inc., 929 Connecticut Ave., Bridgeport 2, Conn.

11. Industrial Safety Equipment: This 48-page catalog covers company's line of welding helmets, hand shields, electrode holders, a weld testing machine, face shields and screens, leather and asbestos safety specialties, goggles, filter and safety glass, welding cable and lugs, chipping hammers, wire brushes and many other welding and industrial safety products. The Fibre-Metal Products Co., Chester, Pa.

12. Drum Handling Equipment: A 4-page folder describes company's complete line of manual and motorized drum handling equipment. In addition to the company's rugged drum cradles, lifting hooks, hand trucks and tipping levers, the new folder describes the Morse Portable Drum Rotator. The drum rotator can be used anywhere in the plant to rotate a wide range of container sizes up to 500 lbs. at any of three different speeds. Morse Mfg. Co., 727 Manlius St., East Syracuse 1, N. Y.

13. Floor Surface Hardener: A 4-page two-color brochure describes a floor surface hardener called Type "SH." The bulletin describes the preparation, materials, mixing, application, and curing information. Manufacturer states that it is easy to install, long lasting, non-slip surface, non-dusting and non-rusting. Walter Maguire Co., Inc., 60 East 42nd St., New York, N. Y.

14. Globetray: A 12-page catalog describes company's line of cable troughs. Designed for easy installation of race ways throughout the plant, it affords a simple solution to any design problem of change of direction or elevation with a complete set of standard fittings, horizontal elbows, inside and outside vertical elbows, ties, crosses, covers and many special fastening devices to save time and labor. Included in the catalog are installations, load charts, accessory items, some typical installations. The Globe Co., 4000 S. Princeton Ave., Chicago 9, Ill.

15. Accident Prevention Signs: Catalog No. 10 describes and illustrates company's complete line of accident prevention signs. Some of the signs shown are: Aviation signs, Be Careful signs, Caution signs, Crane and Derrick signals, Danger signs, Directional (Arrow) signs, Efficiency signs, Good Housekeeping signs, Green Cross signs, Marker signs, No Smoking signs, etc. The signs are produced in three different gauges of steel and three different finishes. Stonehouse Signs, Inc., 9th at Larimer, Denver 4, Colo.

16. Foot Powder: Foot powder for prevention of athlete's foot is discussed in this bulletin. Covering "Alta-Con" powder, the literature also furnishes information on the firm's tester for use in maintaining foot bathtubs at full strength. C. B. Dolge Co., Westport, Conn.

17. Salt Tablets: Reduce accidents caused by heat fatigue by making impregnated salt tables available to your workers as instructed in this bulletin. Information on plastic and heavy-duty aluminum dispenser is also included. Morton Salt Co., 120 S. LaSalle St., Chicago 3, Ill.

18. Rubber Step Treads: Catalog describes how stair accidents can be cut at your plant by installing the compounded rubber treads, runners and mats described in this catalog of safety products. Sizes, styles and methods of ordering are included. Melflex Products Co., 410 S. Broadway, Akron, Ohio.

19. Industrial Work Gloves: 8-page catalog illustrates and describes company's line of work gloves. Featured are flameproof mitts made with bright red material for easy identification by supervisory personnel to insure use of correct mitts and thereby prevent injuries. Jomac, Inc., Philadelphia 38, Pa.

20. Safety Messages: Cutting insurance costs through use of "Ajax" cups and dispensers is presented in a folder available from the manufacturer. Other available folders give information on the possibility of reducing accident figures by having safety messages printed on the cups. U. S. Envelope Co., Springfield 2, Mass.

21. "The Prevention of Occupational Skin Diseases": Hand soaps containing an antiseptic which destroys up to 95 per cent of harmful skin bacteria is presented in this booklet. Armour & Co., 1355 West 31st St., Chicago 9, Ill.

22. "How to Clean Electric Motors": How to clean electric motors with "Safe-Teen" solvent is covered in this technical bulletin. Fine Organics, Inc., 211 East 19th St., New York 3, N. Y.

23. Watchman's Clock: Keeping watchmen alert through installation of "Guardsman" tape-recording watchclock system is discussed in this folder. How this system gives you unbroken mechanical supervision of watchmen's activities 24 hours a day, 7 days a week is explained. Detex Watchclock Corp., 76 Varick St., New York 13, N. Y.

24. Transwall Curtain: Bulletin describes a movable wall providing a flexible means of space division in industrial areas. Supported by a track and roller system, the curtain may be rolled out of the way when not in use or for the loading of materials into a machine. When in place with other appropriate measures effective, such as the installa-

tion of an absorbent ceiling over the walled-in area, over-all reductions in sound-pressure level of 22 db have been achieved. In particular, in tests in industrial areas having no treatment other than the Bemis units, reductions of 4 to 6 db were achieved up to 1,000 cps, while at 3,000 cps the transmission lock was greater than 20 db. No loss in level may be expected inside the curtain, and personal protection should be provided for the men working inside the enclosure. The manufacturer points out that the Transwall Curtain, when combined with other measures can effectively isolate individual machines from normally quiet surrounding areas and can be used to provide temporary rooms having safe noise levels and otherwise dangerously noisy areas. The material is flame-resistant and made up in standard sizes up to 15 feet in height and weighing only ½ pound per foot. Bemis Bro. Bag Co., Physical Research Department, 610-F South 4th St., Minneapolis 15, Minn.

25. **Highway Warning Signal:** "Carry the Spare that Spares Lives" is the title of a folder that describes a highway warning signal that can be carried by trucks and cars for emergency repairs on the road. Compact device consists of a flag for daytime warning and two red reflectors for night time. Vari-Products Co., 2450 S. Prairie Ave., Chicago 16, Ill.

26. **Plastic Safety Spectacles:** Bulletin describes an unusual lightweight rugged plastic spectacle of the single-lens type. Drawing shows construction details and the optional use of side shield; tables give recommended uses, prices, and data on color combinations. U. S. Safety Service Co., 1215 McGee St., Kansas City 6, Mo.

27. **Filtering Ear Plug:** This 4-page bulletin describes several types of noise selective ear plugs to protect hearing in noisy industrial operations. Some permit comprehension of ordinary speech but screen out harmful noise, while others according to manufacturer eliminate all sounds. United Cable Corp., 85 Beechwood Ave., New Rochelle, N. Y.

28. **Functional Sound Absorber:** Literature describes a functional absorber for office use. Known as Tone Cones, these perforated sheet-metal units have a diameter of 12 inches, at the base and are 26 inches in height. They may be suspended from either end and, as is true of functional absorber in general have a coefficient of absorption for their exposed surface which is greater than unity. The actual absorption per unit is dependent on the density of the units in any given installation. Mid-West Noise Control, Indianapolis, Ind.

29. **Industrial Floor Maintenance:** Industrial Floor Maintenance, a bulletin shows company's complete line of floor maintenance equipment and supplies. It explains the finishing and maintaining of floors, methods of dry scrubbing, shower-feed and removal of dust. Hild Floor Machine Co., 736 W. Washington Blvd., Chicago 6, Ill.

30. **"Color Conditioning in Industry":** This booklet shows how industrial plants are approving the value of color conditioning, boosting worker morale and productivity, improving production and quality and quantity of output by use of color in plants. E. I. du Pont de Nemours & Co., Wilmington, Del.

31. **Eye Wash Fountain:** Emergency eye wash fountains and shower-fountain combinations are described in this illustrative booklet. Designed for first aid treatment of eye accidents involving chemicals, metal and other small particles. Drinking water facilities are also included. Haws Drinking Faucet Co., 4th & Page St., Berkeley, Calif.

32. **Sound Proof Room:** Bulletin describes a sound proof room that can be used as a shop office or telephone room, or for audiometric testing. This room has been designed on the basis of conferences held with medical departments of manufacturers and with the aid of engineering and claims departments of several insurance companies. It is completely prefabricated, easy to assemble, and because of its modular construction is readily expandable by means of the addition of prefabricated sections. There is ample room inside the enclosure for two people; however, a phone jacket provided to enable tests to be conducted from the outside if desired. Kittell-Lacy, Inc., 714 W. Olympic Blvd., Los Angeles 15, Calif.

33. **Acid Resistant Apparel.** Special sections in this 16-pager show work garments of Orlon and Dynel; present graphic analysis of advantages and applications of each fabric. Includes new group of lint-free, Orlon clothes; also lady's lab coats. Worklon, Inc., 253 West 28th St., New York, N. Y.

34. **Air Line Respirator:** Two color Bulletin 1009-8 illustrates two basic types: constant flow and demand flow; three face pieces: "Dustfoe," "ComfoCusion," and "All-Vision." Includes portable respirator equipment. List accessories. Mine Safety Appliances Co., 201 N. Braddock Ave., Pittsburgh, Pa.

35. **Floor Dressing:** Poly-Glo is a self-polishing floor dressing that contains no wax or solvents. Has excellent slip resistance, yet gives a high gloss without buffing, minutes after application. Resists heel marks, dirt, and water—will not discolor or yellow. For all types of floors. Bulletin gives full details. Masury-Young Co., 76 Roland St., Boston 29, Mass.

36. **Insul-8-Bar:** New 36 page catalog fully describes the Insul-8-Bar systems of mobile safety electrification for cranes, monorails and all moving machinery. Included are photos and descriptions of typical installations, complete engineering data, installation procedure, a photo-text list of all catalog items that comprise the systems, and other pertinent data. Insul-8-Corp., 1369 Industrial Road, San Carlos, Calif.

37. **Hose Reels for Fuel Delivery Equipment:** Hose reels for fuel delivery equipment are described in this 28-page catalog. Designed as a complete ordering catalog giving sizes, hose capacities and reel variations, this bulletin illustrates the entire line of Hannay Hose Reels for delivery of fuel, oil, gasoline, jet, diesel, and other liquid and gas fuels via hose from 1" to 3" I. D. Specifications and operational features—such as the four different types of rewind available—electric, hydraulic, or air motor, or geared crank—are described clearly and in detail. Also included is information on the "Hannay Guidemaster" hose guide which enables the operator to guide hose to right or left in unwinding and rewinding. Clifford B. Hannay & Son, Inc., 108 Maple St., Westerlo, N. Y.

38. **Safety Signs for Industrial Accident Prevention:** Catalog No. 1 illustrates and describes company's complete line of safety signs for plant, mine, factory or any other installation where accident control and prevention are of vital importance. Some of the signs that are shown are: danger signs, folding signs, caution signs, safety first sign, marker signs, etc. National Safety Engineers, 3914 First Ave., S., P. O. Box 1069, Birmingham 1, Ala.

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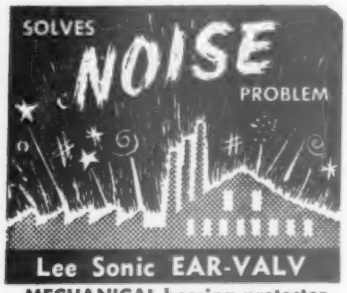

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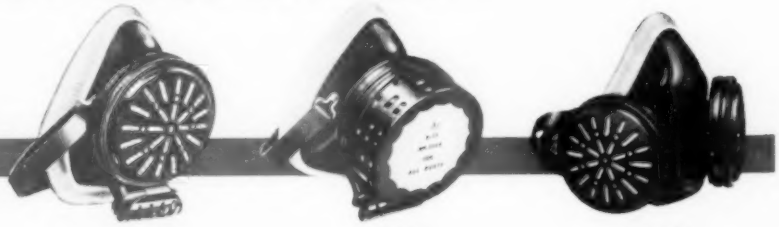

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